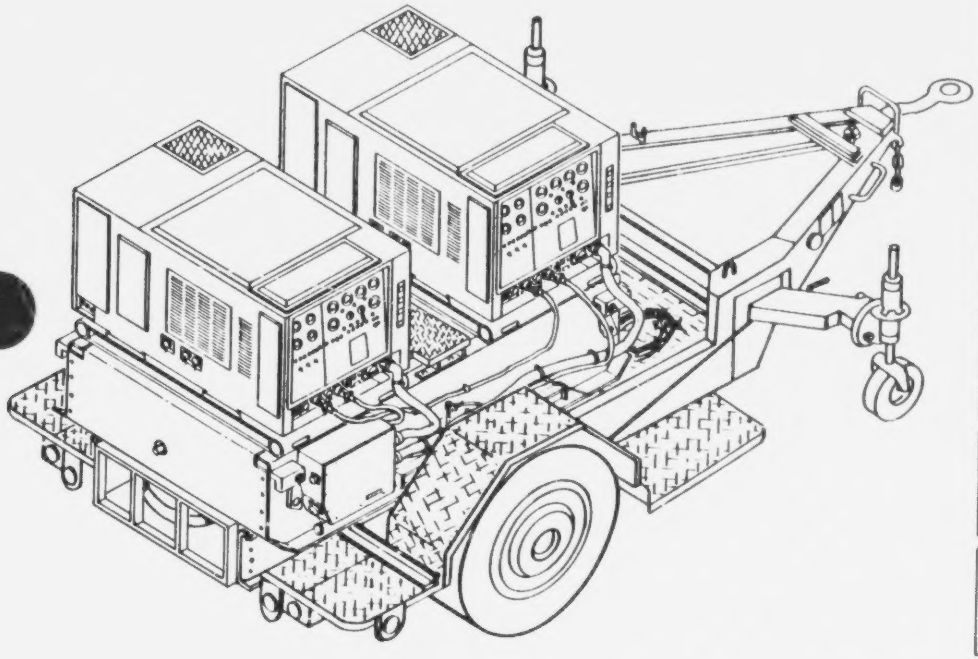
5-6115-599-14+P

TM 5-6115-599-14 & P

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST

This copy is a reprint which includes current pages from Change 1.



DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS
PAGE 2-1

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)
PAGE 2-9

ORGANIZATIONAL TROUBLE-SHOOTING SYMPTOM INDEX
PAGE 4-7

ORGANIZATIONAL MAINTENANCE PROCEDURES
PAGE 4-17

DIRECT SUPPORT SERVICE UPON RECEIPT
PAGE 5-3

DIRECT SUPPORT TROUBLE-SHOOTING SYMPTOM INDEX
PAGE 5-7

MAINTENANCE ALLOCATION CHART
PAGE B-1

REPAIR PARTS AND SPECIAL TOOLS LIST
PAGE C-1

ILLUSTRATED LIST OF MANUFACTURED ITEMS
PAGE E-1

ELECTRIC POWER UNIT
AN/MJQ-21
(6115-01-056-9000)

HEADQUARTERS, DEPARTMENT OF THE ARMY

1 OCTOBER 1984

D 101. 11:

READEX FICHE best copy available

TM 5-6115-599-14&P
C 1

CHANGE }
NO. 1 }

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 19 December 1986

Operator's, Organizational, Direct Support, and General Support Maintenance Manual Including Repair Parts and Special Tools List

ELECTRIC POWER UNIT
AN/MJQ-21
(6115-01-056-9000)

TM 5-6115-599-14&P, 1 October 1984, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

Remove pages	Insert pages
2-19 and 2-20	2-19 and 2-20
C-19 and C-20	C-19 and C-20
C-23 and C-24	C-23 and C-24
C-29 and C-30	C-29 and C-30
C-77 through C-79/C-80	C-77 through C-79/C-80
F-1 and F-2	F-1 and F-2

2. Retain this sheet in front of manual for reference purposes.

By Order of the Secretary of the Army:

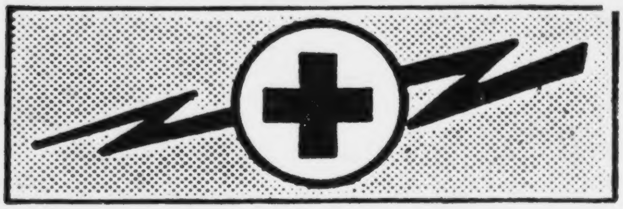
JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

Official:

R. L. DILWORTH
Brigadier General, United States Army
The Adjutant General

DISTRIBUTION:
To be distributed in accordance with DA Form 12-25A, Operator, Organizational, and Direct Support and General Support Maintenance Requirements for Electric Power Unit (AN/MJQ-21).

WARNING



WARNING

DEATH or SEVERE INJURY
may result if safety precautions are not observed.

Do not operate this equipment unless it is grounded. Remove all jewelry from fingers, wrists, and neck before working on electrical equipment. Do not attempt to service or connect wires or cables until generator sets are shut down and fully deenergized. When working on high-voltage equipment, keep one hand away from the equipment to reduce the hazard of current flowing through vital organs of the body.

WARNING

If metal-to-metal contact is not maintained during refueling, a spark may result which could ignite fuel fumes. Make sure fuel nozzle stays in contact with fuel tank filler neck.

WARNING

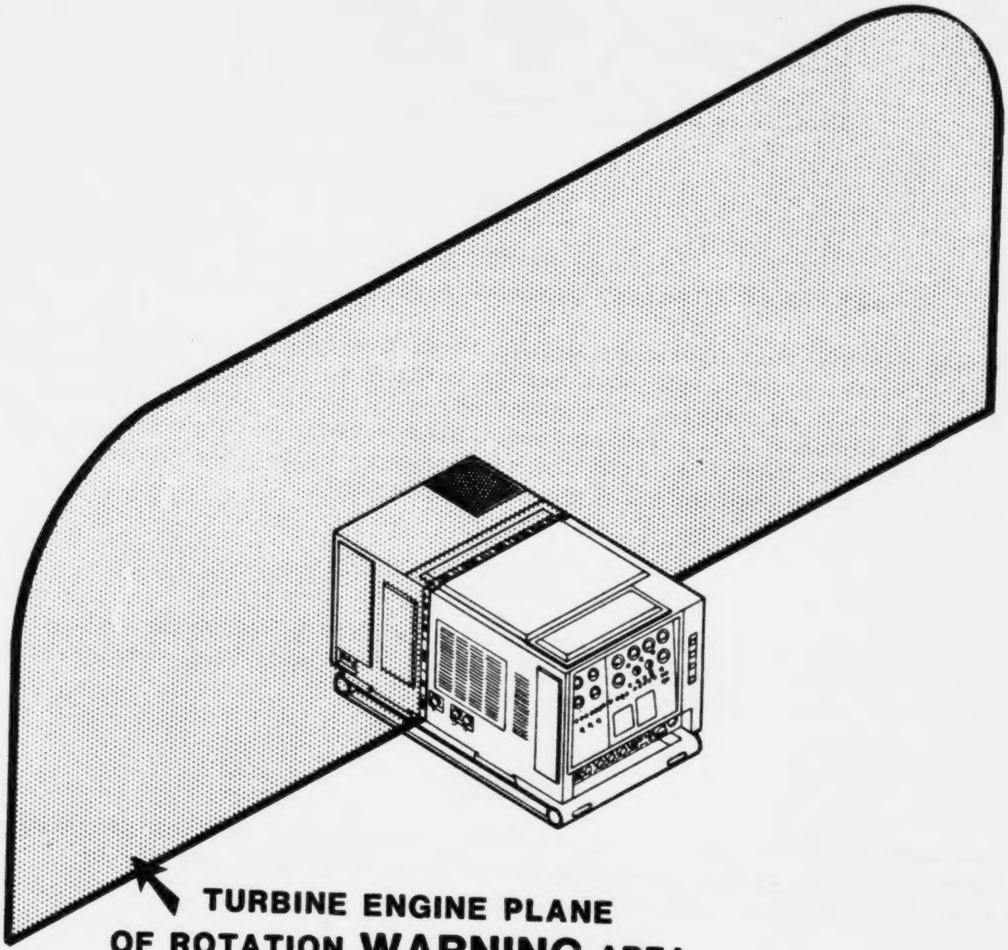
In order to avoid electrical discharge, fuel tanker must be grounded. Make sure fuel tanker grounding strap is connected to one of the Electric Power Unit grounding studs.

WARNING

Do not operate the Electric Power Unit in enclosed areas; exhaust fumes are deadly.

WARNING

Do not expose any part of the body to high-pressure leaks in the fuel system of the generator set. Liquid under pressure may penetrate the skin and cause injury.



TURBINE ENGINE PLANE OF ROTATION WARNING AREA

WARNING

Stay at least 20 feet (6.1 meters) away from the turbine engine plane of rotation during operation and especially during startup. Plane of rotation is shown by red area marked on the generator set. Failure to observe this WARNING may result in personal injury or death in case of generator failure.

WARNING

Noise level of this generator can cause hearing damage. Ear protectors, as recommended by the medical or safety officer, must be worn when working near this set.

WARNING

W1 power cable weighs about 180 pounds (81.6 kg). Do not try to carry it by yourself; get help.

WARNING

No smoking or open flame within 50 feet (15.3 meters) of the EPU when operating or maintaining it. Do not allow fuel to drain onto ground. This will create a fire hazard.

WARNING

Do not get under the generator set while it is in the air. Bodily injury may occur.

WARNING

Hazardous electrical voltages exist within system. Do not connect or remove electrical cables, or touch exposed metal portions of test leads or terminals while performing tests with power on. Serious electric shock, burns, or death may result.

WARNING

Do not get under pallet assembly while it is in the air. Bodily injury may occur.

For first aid procedures, see FM 21-11.

TECHNICAL MANUAL

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 1 October 1984

Operator's, Organizational, Direct Support, and General Support Maintenance Manual Including Repair Parts and Special Tools List

ELECTRIC POWER UNIT
AN/MJQ-21

Current as of 4 May 1984

REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms) or DA Form 2028-2 located in the back of this manual direct to: Commander, U.S. Army Troop Support Command, ATTN: AMSTR-MPS, 4300 Goodfellow Blvd., St. Louis, MO 63120. A reply will be furnished to you.

Page

HOW TO USE THIS MANUAL v

CHAPTER 1 INTRODUCTION 1-1

Section I General Information 1-1

Section II Equipment Description 1-3

Section III Technical Principles of Operation 1-12

CHAPTER 2 OPERATING INSTRUCTIONS 2-1

Section I Description and Use of Operator's Controls and Indicators 2-1

This manual supersedes TM 5-6115-599-14&P, dated 10 June 1982

Page

Section II Operator Preventive Maintenance Checks and Services (PMCS) 2-8

Section III Operation Under Usual Conditions 2-12

Section IV Operation Under Unusual Conditions 2-46

CHAPTER 3 OPERATOR MAINTENANCE 3-1

Section I Lubrication Instructions 3-1

Section II Troubleshooting Procedures 3-1

Section III Maintenance Procedures 3-1

CHAPTER 4 ORGANIZATIONAL MAINTENANCE 4-1

Section I Repair Parts; Special Tools; Test, Measurement, and Diagnostic Equipment (TMDE); and Support Equipment 4-1

Section II Service Upon Receipt 4-2

Section III Preventive Maintenance Checks and Services (PMCS) 4-2

Section IV Troubleshooting 4-5

Section V Maintenance Procedures 4-17

CHAPTER 5 DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE 5-1

Section I Repair Parts; Special Tools; Test, Measurement, and Diagnostic Equipment (TMDE); and Support Equipment 5-2

Section II Service Upon Receipt 5-2

Section III Troubleshooting 5-5

Section IV Maintenance Procedures 5-17

Section V Preparation for Storage or Shipment 5-114

APPENDIX A REFERENCES A-1

		Page	Illus Figure
APPENDIX B	MAINTENANCE ALLOCATION CHART (MAC)	B-1	
Section I	Introduction	B-1	
Section II	Maintenance Allocation Chart for Electric Power Unit	B-5	
Section III	Tool and Test Equipment Requirements for Electric Power Unit	B-9	
Section IV	Remarks	B-11	
APPENDIX C	REPAIR PARTS AND SPECIAL TOOLS LIST	C-1	
Section I	Introduction	C-1	
Section II	Repair Parts List	C-8	
Group 01	MEP404B Generator Sets	C-9	C-1
Group 02	Electrical System	C-15	C-2
Group 03	Power Distribution Unit, EPU	C-27	C-3
Group 04	Pallet Assembly	C-37	C-4
Group 05	Fuel System		
	0503 Fuel Tank Assembly	C-41	C-5
	0504 Fuel Filter/Water Separator	C-43	C-6
	0505 Fuel Shutoff Valves	C-45	C-7
	0506 Solenoid Valve Assembly	C-47	C-8
	0507 Fuel Check Valve Assembly	C-49	C-9
	0508 Internal Fuel Lines and Fittings	C-53	C-10
	0509 External Fuel Lines and Fittings	C-57	C-11

	Page	Illus Figure
Group 06 M353 (Modified) Trailer 13220E0753	C-63	C-12
Group 9998 BULK MATERIAL	C-66	
Section III National Stock Number and Part Number Index	C-68	
APPENDIX D EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST	D-1	
Section I Introduction	D-1	
Section II Expendable/Durable Supplies and Materials List	D-2	
APPENDIX E ILLUSTRATED LIST OF MANUFACTURED ITEMS	E-1	
APPENDIX F ADDITIONAL AUTHORIZATION LIST	F-1	
Section I Introduction	F-1	
Section II Additional Authorization List	F-1	
INDEX	Index 1	
FOLDOUTS	FP-1	

HOW TO USE THIS MANUAL

This manual provides information for use in operating and maintaining the Electric Power Unit (EPU), AN/MJQ-21, at the operator, organizational, direct support (DS), and general support (GS) maintenance levels. To help you become familiar with this manual as quickly as possible, spend some time looking through the pages. You'll see that it's easy to use and find what you're looking for. The following instructions provide a description of the entire manual and detailed information on how to use it.

A. MANUAL CONTENT

1. This manual consists of the following:

   a. Cover Index
   b. Warning and First Aid Data Page
   c. Table of Contents
   d. How to Use This Manual
   e. Chapters 1 through 5
   f. Appendixes A through E
   g. Index
   h. Foldouts

2. The manual is divided as follows:

a. Chapter 1, Introduction. Contains general information, equipment description, and technical principles of operation.

b. Chapter 2, Operating Instructions. Contains a functional description of the controls and indicators. There are detailed procedures for performing preventive maintenance checks and services and operating under usual and unusual conditions.

c. Chapter 3, Operator Maintenance. Explains the operator's responsibilities for maintaining the Electric Power Unit.

d. Chapter 4, Organizational Maintenance. Contains maintenance instructions that are the responsibility of the organizational maintenance technician, as authorized by the Maintenance Allocation Chart (MAC).

e. Chapter 5, Direct Support and General Support Maintenance. Contains maintenance instructions that are the responsibility of the DS and GS maintenance technicians, as authorized by the Maintenance Allocation Chart.

f. Appendix A, References. Contains a list of all publications used with or mentioned in this manual.

g. Appendix B, Maintenance Allocation Chart. Contains a list of maintenance functions and identifies the level of maintenance authorized to perform them.

h. Appendix C, Repair Parts and Special Tools List. Contains an illustrated list of spare and repair parts; special tools; test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for the performance of organizational, direct support, and general support maintenance of the Electric Power Unit.

i. Appendix D, Expendable/Durable Supplies and Materials List. Contains a list of expendable/durable supplies and materials used to support the Electric Power Unit.

j. Appendix E, Illustrated List of Manufactured Items. Contains instructions for making items authorized to be fabricated at organizational maintenance.

k. Appendix F, Additional Authorization List. Contains listing of tools authorized to you that are not included in your MTOE.

l. Index. Contains an alphabetical list of the material covered in this manual.

B. FORMAT. The intent of this format is to provide you with a manual that will let you do your job quickly and easily and with a minimum of confusion.

The maintenance tasks covered in chapters 3, 4, and 5 are arranged in modules. Each module contains all the information you need to complete the task. You must familiarize yourself with all procedures before beginning a maintenance task. The illustrations associated with the task are at the end of the module. Index numbers on the illustrations are in disassembly sequence. You can perform some simple maintenance tasks by using the illustration only.

The following is an example of how the maintenance information is provided:

4-13. FUEL TANK VENT -- MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Replace

INITIAL SETUP

Tools and Special Tools

General mechanic's tool kit: automotive, 5180-00-177-7033
- 11/16-inch combination box- and open-end wrench
- 5/8-inch combination box- and open-end wrench
- 1/2-inch combination box- and open-end wrench
- 1/2-inch socket, 1/2-inch square female drive
- Reversible socket wrench ratchet, 1/2-inch square drive

Materials/Parts

Sealing compound, item 12, appendix D

Rags, item 11, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.

General Safety Instructions

WARNING

Do not smoke or permit open flames around the fuel tank vent during replacement. This will create a fire hazard.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Pallet	Walkway (1), four capscrews (2), and four lockwashers (3)	Remove. Using 1/2-inch combination box- and open-end wrench, and 1/2-inch socket with reversible ratchet, remove capscrews and lockwashers. Remove walkway.	

a. Notice that the title of paragraph 4-18 is "Fuel Tank Vent - Maintenance Instructions." If you look just below the title you will see the block with the information, "This task covers: a. Remove, b. Replace." You now know that this paragraph covers the removal and replacement of the fuel tank vent.

b. As you continue down the page, you see, "Initial Setup." The initial setup lists the information you must know before you start the procedure. It tells you how to prepare the work area, what tools you need, and other critical information. For this procedure you must know the requirements for the following:

(1) Tools and Special Tools
(2) Materials/Parts
(3) Personnel Required
(4) Equipment Conditions
(5) General Safety Instructions

c. After you have prepared for the task, you are ready to go to the removal and replacement procedures immediately following the "Initial Setup" block. The procedures are arranged in four columns with the following headings: "Location," "Item," "Action," and "Remarks."

(1) In the "Location" column, you will find the location for parts listed in the "Item" column.

(2) In the "Item" column, you will find the part or parts you will be working on.

(3) In the "Action" column, you will find the steps that you are required to perform on the item or items.

(4) The "Remarks" column gives you additional information that will help you perform the step or better understand what is being done.

(5) Begin by reading under each column heading from left to right. To the far left you will find the number "1." This is step 1 of the removal procedure. All other steps follow in numerical order.

(6) Illustrations are normally provided at the end of the procedure to support the maintenance steps.

4-18. FUEL TANK VENT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
2. Fuel tank vent	a. Pipe adapter (4)	Using 5/8-inch combination box- and open-end wrench, hold adapter firmly while removing fuel tank vent.	
	b. Fuel tank vent (5)	Remove. Using 11/16-inch combination box- and open-end wrench, remove fuel tank vent.	

WARNING

Do not smoke or permit open flames around the fuel tank vent during replacement. This will create a fire hazard.

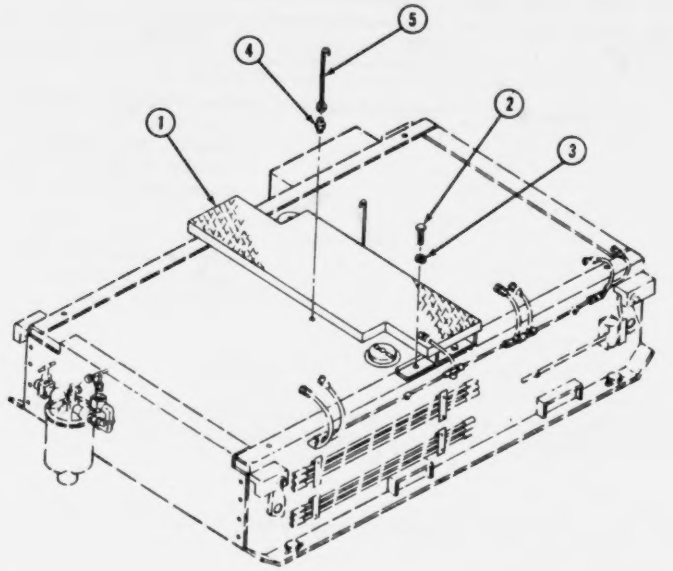
NOTE

Apply sealing compound to pipe adapter threads prior to installing fuel tank vent.

REPLACE

LOCATION	ITEM	ACTION	REMARKS
3. Pipe adapter	Fuel tank vent (4)	Install. Using 11/16-inch combination box- and open-end wrench to hold adapter still while tightening fuel tank vent with 5/8-inch combination box- and open-end wrench, install on pipe adapter (4).	
4. Pallet	Walkway (1), four capscrews (2), and four lockwashers (3)	Secure. Aline walkway mounting holes with pallet mounting holes. Secure to pallet by inserting four capscrews and lockwashers, and tighten using 1/2-inch combination box- and open-end wrench, and 1/2-inch socket with reversible ratchet.	

4-18. FUEL TANK VENT – MAINTENANCE INSTRUCTIONS (CONT)



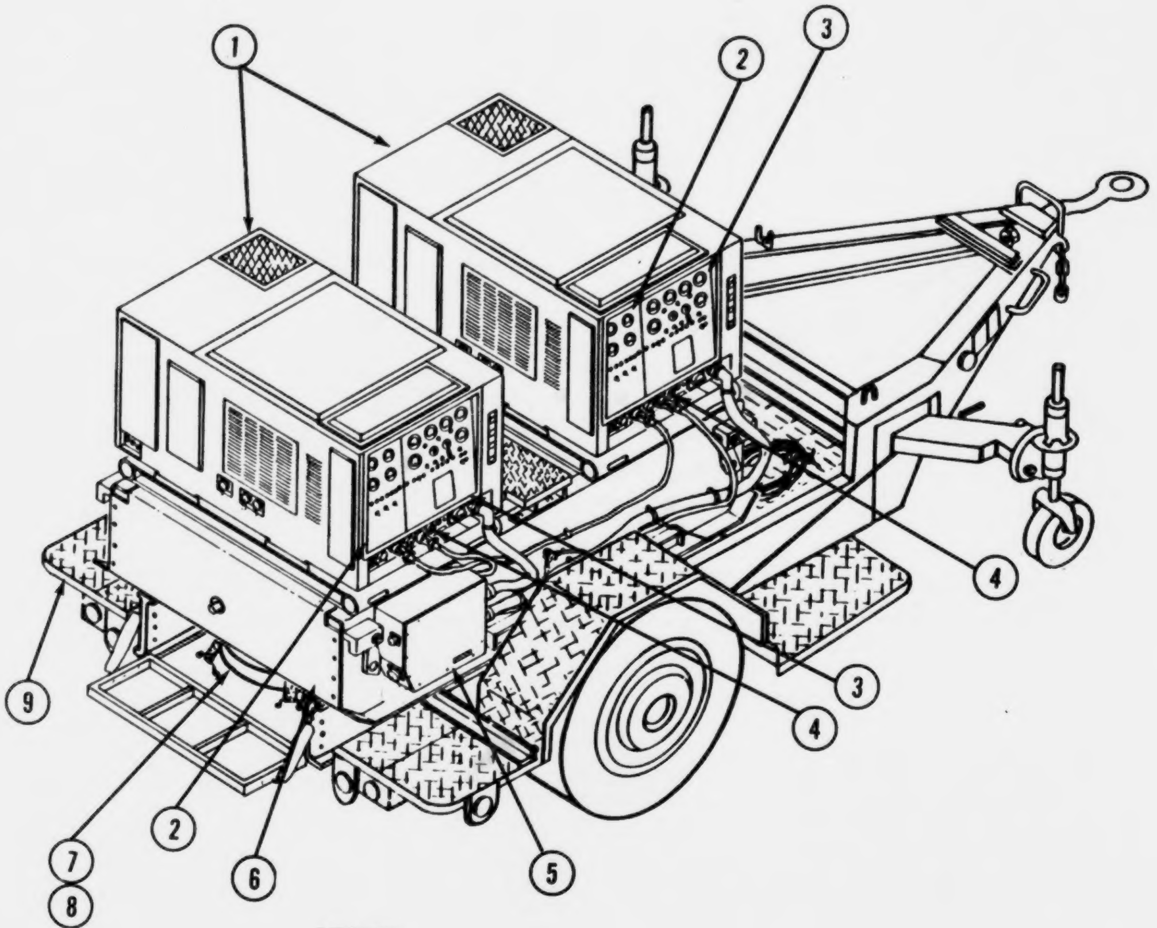
LEGEND

1 WALKWAY
2 CAPSCREW
3 LOCKWASHER
4 PIPE ADAPTER
5 FUEL TANK VENT

This kind of format is valuable to you because of the compact way the information is arranged. To accomplish a task, you can quickly find the subject, tell at a glance what the task covers, which tools and materials you will need, and the condition the equipment must be in before you begin to perform the task. If you are an inexperienced mechanic, the illustrations and detailed procedures tell you how to perform the task. If you are experienced, you can read over the various columns and use them to refresh your memory. The cover index provides you with the quickest method of using the manual and finding a particular subject. However, two other methods are provided: the Table of Contents in the front of the manual, and the alphabetical Index located in the back of the manual.

In addition to the information provided above, take some time to look through the manual so that you will become familiar with its contents.

ELECTRIC POWER UNIT



LEGEND

1 MEP404B Generator Sets
2 Turbine Control Panel
3 Generator Control Panel
4 Generator Ground Wire
5 Power Distribution Unit
6 Pallet Assembly With Fuel Tanks
7 W1 Power Cable
8 W5 Cable
9 M353 (Modified) 3½-Ton Trailer

CHAPTER 1
INTRODUCTION

	Para
Section I. GENERAL INFORMATION	
Scope	1-1
Maintenance Forms and Records	1-2
Destruction of Army Materiel to Prevent Enemy Use	1-3
Preparation for Storage or Shipment	1-4
Reporting Equipment Improvement Recommendations (EIR)	1-5
Glossary	1-6
Section II. EQUIPMENT DESCRIPTION	
Equipment Characteristics, Capabilities, and Features	1-7
Location and Description of Major Components	1-8
Equipment Data	1-9
Section III. TECHNICAL PRINCIPLES OF OPERATION	
General	1-10
Electrical System	1-11
Fuel System	1-12

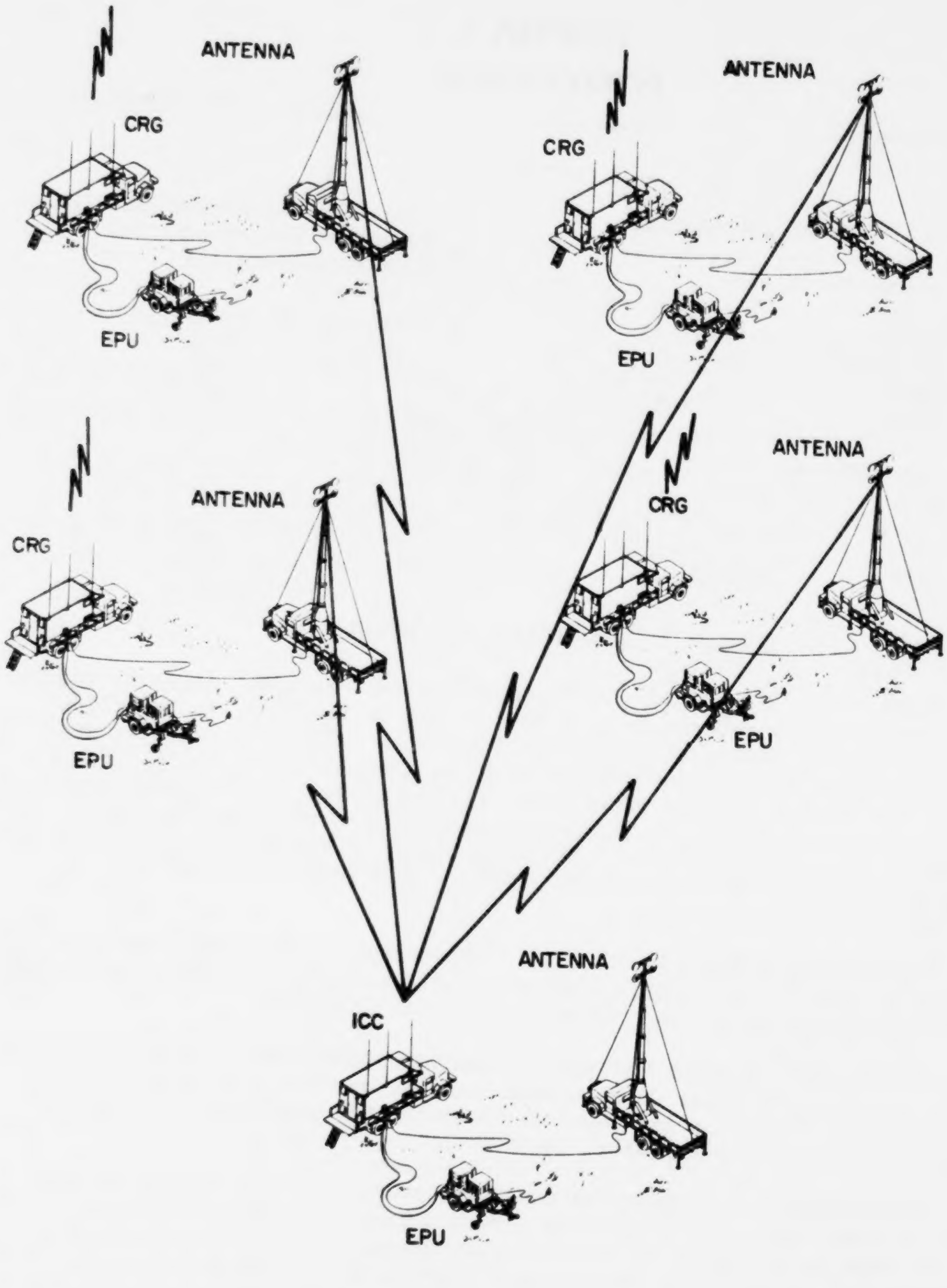
Section I. GENERAL INFORMATION

1–1. SCOPE. This manual contains instructions for operator, organizational, direct support, and general support maintenance of the Electric Power Unit (EPU), AN/MJQ-21, pallet assembly with fuel tanks. The unit provides power to the Information Coordination Central (ICC) or Communications Relay Group (CRG) used by the PATRIOT missile battalion. The manual includes a Repair Parts and Special Tools List (RPSTL). It also contains instructions for the operation of the entire Electric Power Unit. For maintenance of the MEP404B generator sets and M353 (modified) 3½-ton trailer, refer to TM 5-6115-603-12 and TM 9-2330-247-14, respectively.

1–2. MAINTENANCE FORMS AND RECORDS. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750, The Army Maintenance Management System (TAMMS).

1–3. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE. To prevent enemy use of the Electric Power Unit, follow instructions given in TM 43-0002-24. This includes directions for destruction of the two generator sets, pallet assembly, trailer, and technical documents.

1–4. PREPARATION FOR STORAGE OR SHIPMENT. Administrative storage of the Electric Power Unit will be done by direct support maintenance personnel. This will be done according to TM 740-90-1 (Administrative Storage of Equipment) and PATRIOT standing operating procedures. General support maintenance will prepare the Electric Power Unit for shipment using TB 740-97-2, Preservation of USAMECOM Mechanical Equipment for Shipment and Storage.


ANTENNA
CRG
EPU
ANTENNA
CRG
EPU
ANTENNA
CRG
EPU
ANTENNA
CRG
EPU
ANTENNA
ICC
EPU

Electric Power Unit Emplacement

1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR). If your Electric Power Unit needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF 368 (Quality Deficiency Report). Mail it to: Commander, U.S. Army Troop Support Command, ATTN: AMSTR-QX, 4300 Goodfellow Boulevard, St. Louis, MO 63120. We'll send you a reply.

1-6. GLOSSARY

CRG	Communications Relay Group
EIR	Equipment Improvement Recommendation
EPU	Electric Power Unit
ICC	Information Coordination Central
MAC	Maintenance Allocation Chart
MEP	Mobile Electric Power
PDU	Power Distribution Unit
PMCS	Preventive Maintenance Checks and Services
RPSTL	Repair Parts and Special Tools List
TAMMS	The Army Maintenance Management System
TMDE	Test, Measurement, and Diagnostic Equipment

Section II. EQUIPMENT DESCRIPTION

1-7. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

a. Characteristics

(1) Two trailer-mounted gas turbine generators with an internal fuel system which is contained within the pallet frame.

(2) Provides alternating current to Information Coordination Central (ICC) or to the truck-mounted Communications Relay Groups (CRG).

b. Capabilities and Features

(1) Can be operated while parked at 10 degree angle from horizontal.

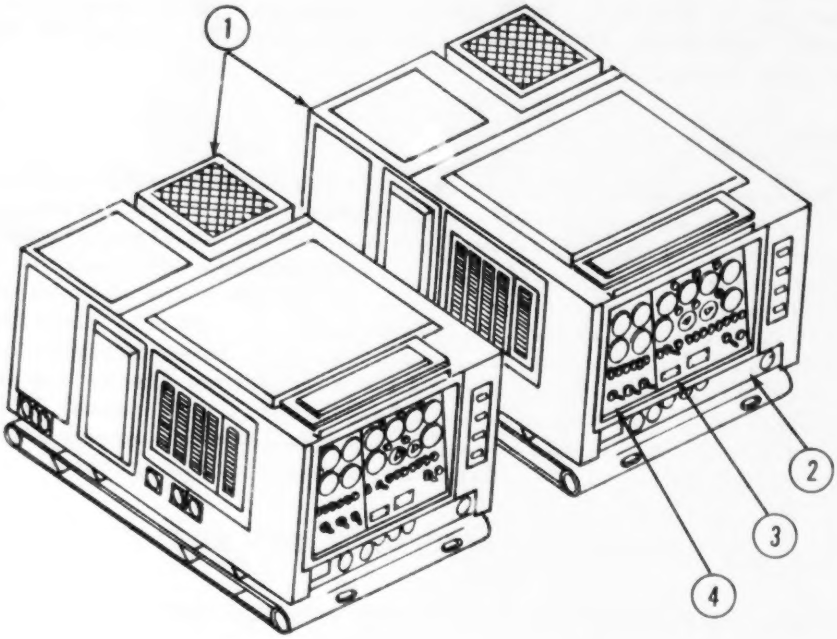
(2) Each generator is operated independently and can be operated for up to 100 continuous hours.

(3) All-weather operational.

(4) Transportable over rough terrain.

1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

a. MEP404B Generator Set



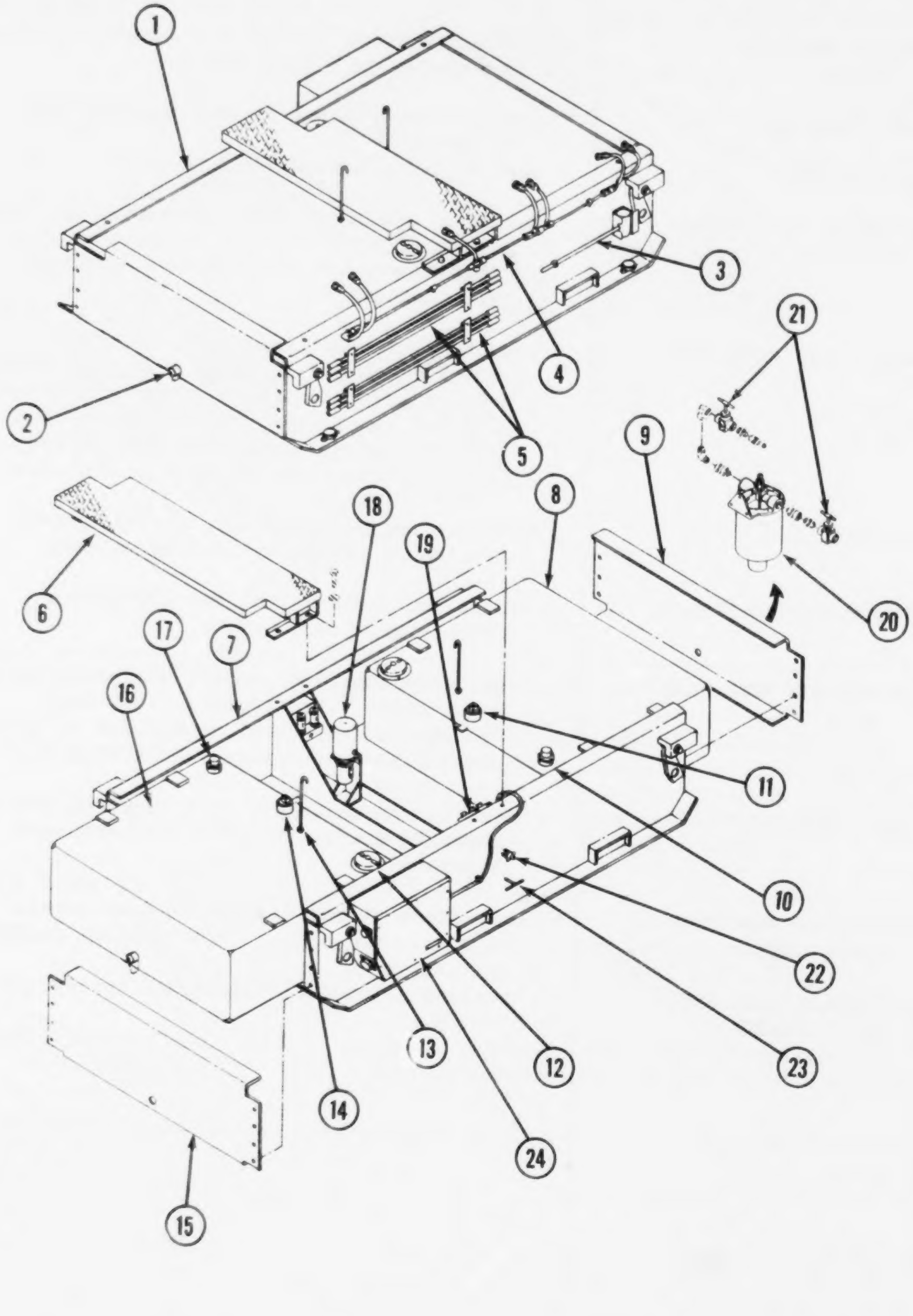
1	MEP404B GENERATOR SET	Provides self-contained source of alternating current electric power. The generator set supplies 120/208- or 240/416-volt, 3-phase, 4-wire regulated ac power rated at 60 kW using a gas turbine engine. For a detailed description of the major components, refer to TM 5-6115-603-12.
2	OUTPUT CONNECTOR PANEL	Provides receptacles for cable hookups.
3	GENERATOR CONTROL PANEL	Contains controls and indicators used in maintaining proper input and output currents.
4	TURBINE CONTROL PANEL	Contains the necessary controls and indicators for monitoring the gas turbine engine.

1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (CONT)

b. Pallet Assembly

1	PALLET ASSEMBLY	Provides support for the two generator sets; houses the unit fuel system.
2	FUEL TANK DRAIN	Quick-disconnect outlet for removing fuel.
3	SLEDGEHAMMER	Used to drive ground rod assembly.
4	EXTERNAL FUEL DRAIN ASSEMBLY	Series of tubing sections connected to both generator sets. Allows draining of fuel prior to removal of generator set from pallet assembly.
5	GROUND ROD ASSEMBLIES	One of the assemblies will be used to ground the Electric Power Unit; the other acts as a backup. Each ground rod assembly contains three copper-clad rods, each 3 feet (0.9 meter) long, and about 6 feet (1.8 meters) of copper-clad ground wire.
6	WALKWAY	Protects the internal fuel supply system. Provides a centrally located walkway.
7	PALLET ASSEMBLY FRAME	Houses and protects the two 100-gallon (378.5-liter) fuel tanks.
8	100-GALLON FUEL TANK	Provides backup fuel supply to the Electric Power Unit. The secondary fuel tank contains a fuel-level sensor and is located next to the fuel filter/water separator.
9	FRONT END PLATE	Protects the secondary fuel tank and provides mounting surface for fuel filter/water separator.
10	SECONDARY TANK FUEL-LEVEL GAGE	Provides a visual display of fuel level.
11	SECONDARY TANK FUEL-LEVEL SENSOR	Provides a low-fuel indication inside the ICC or CRG.

1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (CONT)

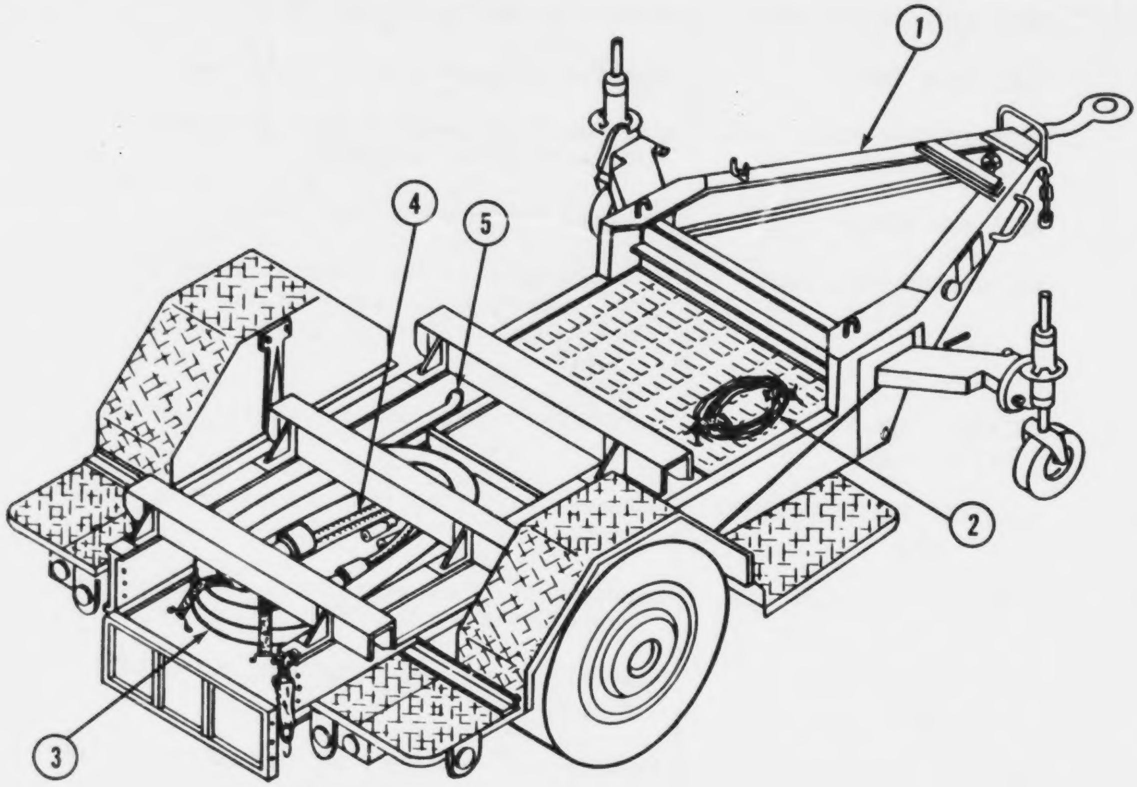

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

1–8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (CONT)

12	FUEL TANK FILLER NECK	Receptacle for receiving fuel.
13	FUEL TANK VENT	Equalize pressure inside fuel tank.
14	PRIMARY TANK FUEL-LEVEL SENSOR	Electric float monitor that activates a solenoid valve assembly.
15	REAR END PLATE	Protects the primary fuel tank.
16	100-GALLON FUEL TANK	Provides fuel to the Electric Power Unit. The primary fuel tank contains a fuel-level sensor and is located in the rear of the pallet.
17	PRIMARY TANK FUEL-LEVEL GAGE	Provides a visual display of fuel level.
18	SOLENOID VALVE ASSEMBLY	Switches fuel flow from primary to secondary tank.
19	FUEL DISTRIBUTION UNIT	Connects the fuel electrical system to the Power Distribution Unit.
20	FUEL FILTER/WATER SEPARATOR	Filters excess water and dirt from fuel system.
21	SHUTOFF VALVES	Used to shut off fuel going into or out of the fuel filter/water separator.
22	GROUND TERMINAL	Provides a common ground between the two generator sets and trailer.
23	VALVE GATE	Provides a manual override for the solenoid valve assembly.
24	POWER DISTRIBUTION UNIT	Provides power to the ICC and CRG. Allows ICC or CRG operator to open or close the power contactors from his location.

1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (CONT)

c. M353 (Modified) 3½-Ton Trailer

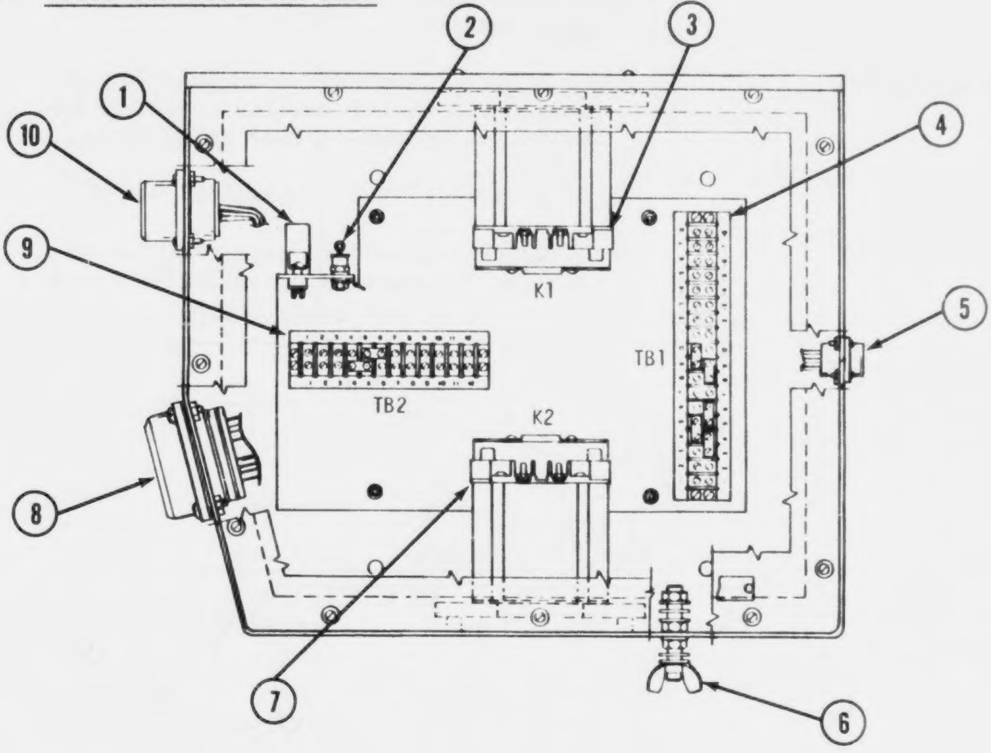


1	M353 (MODIFIED) 3½-TON TRAILER	Modified to allow components of the Electric Power Unit to be mounted and transported. For a detailed description of the trailer, refer to TM 9-2330-247-14.
2	GROUND WIRE ASSEMBLY	Provides an additional 25 feet (7.6 meters) of wire for connecting the EPU to the ground rod assembly.
3	W1 POWER CABLE	75-foot (22.9-meter) power cable. Connects the PDU to the Information Coordination Central or Communications Relay Group.

1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (CONT)

4	W5 CABLE	75-foot (22.9-meter) signal cable. Connects the PDU to the Information Coordination Central or the Communications Relay Group.
5	TRAILER GROUND SYSTEM	Provides an internal ground between the trailer and pallet assembly. Also, provides an external ground between the trailer and ground rod.

d. Power Distribution Unit

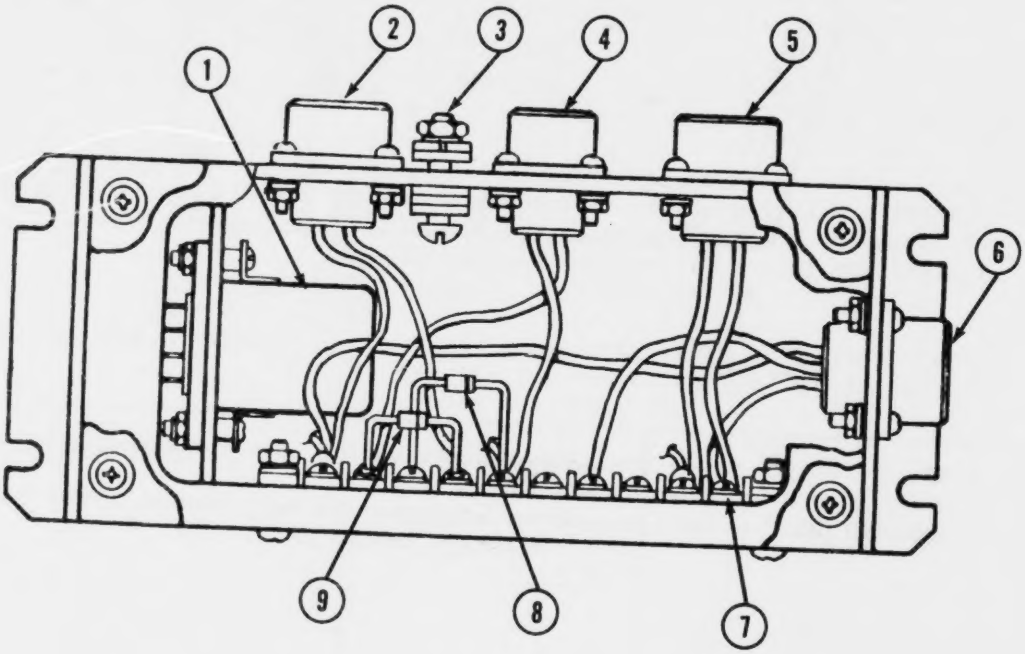


1	K3	Power Distribution Unit contactor relay.
2	CR1 AND CR2	Power Distribution Unit diodes. (CR2 is directly behind CR1.)

1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (CONT)

3	K1 CONTACTOR	Power Distribution Unit generator power input connector.
4	TB1	Power Distribution Unit terminal board 1.
5	J11 CONNECTOR	Power Distribution Unit connector for W6 cable to fuel distribution unit.
6	3-E1 GROUND TERMINAL	Power Distribution Unit ground terminal.
7	K2 CONTACTOR	Power Distribution Unit generator power input connector.
8	J1 CONNECTOR	Power Distribution Unit connector for W1 power cable to Information Coordination Central or Communications Relay Group.
9	TB2	Power Distribution Unit terminal board 2.
10	J6 CONNECTOR	Power Distribution Unit connector for W5 cable to Information Coordination Central or Communications Relay Group.

e. Fuel Distribution Unit



1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (CONT)

1	K4	Fuel distribution unit relay.
2	J7 CONNECTOR	Fuel distribution unit connector for W2 cable to primary tank fuel-level sensor.
3	4-E1	Fuel distribution unit ground terminal.
4	J8 CONNECTOR	Fuel distribution unit connector for W3 cable to solenoid valve assembly.
5	J9 CONNECTOR	Fuel distribution unit connector for W4 cable to secondary tank fuel-level sensor.
6	J10 CONNECTOR	Fuel distribution unit connector for W6 cable to Power Distribution Unit.
7	TB3	Fuel distribution unit terminal board 3.
8	CR4	Fuel distribution unit diode.
9	CR3	Fuel distribution unit diode.

1-9. EQUIPMENT DATA

a. Electric Power Unit, AN/MJQ-21

Length	186.19 in. (472.92 cm)
Width	96.00 in. (243.84 cm)
Height	80.50 in. (204.47 cm)
Weight	5,900.00 lb (2,678.60 kg)

b. MEP404B Generator Set*

Fuel	
Primary	VV-F-800 Diesel Fuel
Winter Grade DF-1	-25°F to +60°F (-32°C to +16°C)
Regular Grade DF-2	+20°F to +125°F (-7°C to +52°C)
Arctic Grade DF-A	-65°F to +24°F (-54°C to -5°C)
Emergency	MIL-F-16884 Diesel Fuel +10°F to +125°F (-12°C to +52°C)

1-9. EQUIPMENT DATA (CONT)

b. MEP404B Generator Set* (Cont)

Length	62.00 in. (157.48 cm)
Width	34.50 in. (87.63 cm)
Height	30.50 in. (77.47 cm)
Weight	1,024.00 lb (464.90 kg)

c. Pallet Assembly

Length	93.62 in. (237.79 cm)
Width	59.60 in. (151.38 cm)
Height	17.00 in. (43.18 cm)
Weight	600.00 lb (dry) (272.40 kg) 1,800.00 lb (wet) (817.20 kg)

d. M353 (Modified) 3½-Ton Trailer**

Length	186.19 in. (472.92 cm)
Width	96.00 in. (243.84 cm)
Height	48.00 in. (121.92 cm)
Weight	2,650.00 lb (1,203.10 kg)

---

* For detailed equipment data on the MEP404B generator set, refer to TM 5-6115-603-12.

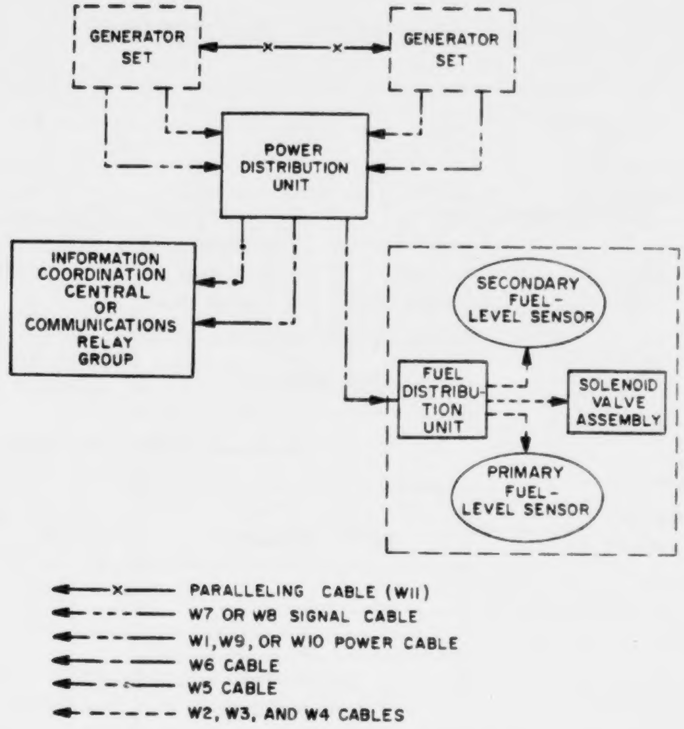
** For detailed equipment data on the M353 (modified) 3½-ton trailer, refer to TM 9-2330-247-14.

Section III. TECHNICAL PRINCIPLES OF OPERATION

1-10. GENERAL. This section describes the principles of operation of the electrical and fuel systems of the Electric Power Unit (EPU), AN/MJQ-21. For detailed information on the MEP404B Generator Set, refer to TM 5-6115-603-12, chapter 4.

1-11. ELECTRICAL SYSTEM. The Electric Power Unit provides 120/208 volts ac power to the Information Coordination Central (ICC) and/or to the Communications Relay Group (CRG). This is done by connecting the W1 power cable from the Power Distribution Unit to Information Coordination Central or a Communications Relay Group. The Electric Power Unit contains an internal fuel source that must receive 24 volts of dc power. To operate this system the W6 cable is connected to the fuel distribution unit. The fuel distribution unit is connected to the fuel solenoid valve assembly and to the fuel-level sensors located in the primary and secondary fuel tanks.

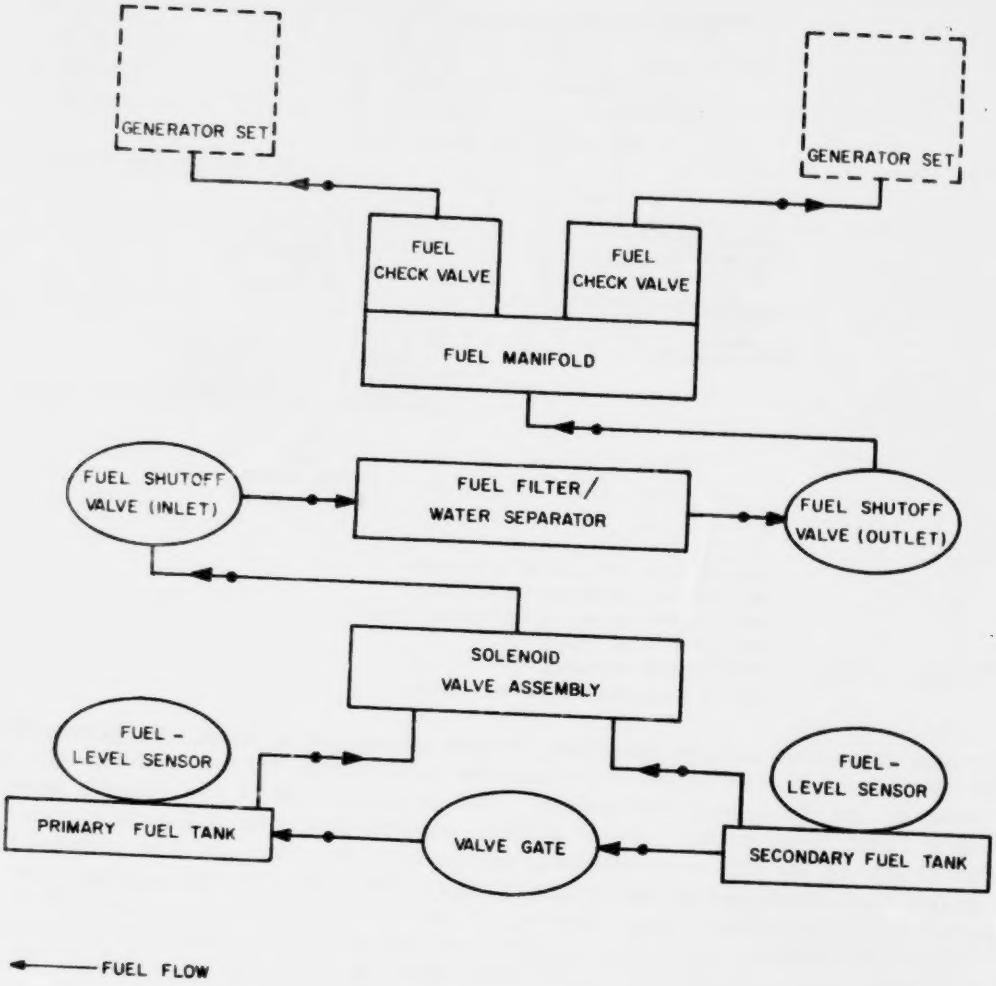
1-11. ELECTRICAL SYSTEM (CONT)


GENERATOR SET
GENERATOR SET
POWER DISTRIBUTION UNIT
INFORMATION COORDINATION CENTRAL OR COMMUNICATIONS RELAY GROUP
SECONDARY FUEL-LEVEL SENSOR
FUEL DISTRIBUTION UNIT
SOLENOID VALVE ASSEMBLY
PRIMARY FUEL-LEVEL SENSOR
PARALLELING CABLE (W11)
W7 OR W8 SIGNAL CABLE
W1, W9, OR W10 POWER CABLE
W6 CABLE
W5 CABLE
W2, W3, AND W4 CABLES

When the generator set is started, 28 vdc power flows from the generator set through the power distribution unit and the fuel distribution unit to the fuel-level sensors and fuel solenoid valve. The primary tank's fuel-level sensor contains a float that works like a switch, controlling the solenoid valve. When the float is in the up position, the circuit is open and the solenoid valve draws fuel from the primary fuel tank. When the circuit closes, the solenoid valve receives power, thus causing it to draw fuel from the secondary fuel tank. When the circuit is closed on the secondary tank's fuel-level sensor, it sends a signal that illuminates a low fuel warning light in the ICC or CRG.

1-12. FUEL SYSTEM. The Electric Power Unit (EPU), AN/MJQ-21, contains two 100-gallon fuel tanks located in the pallet assembly. The fuel tank located at the rear of the trailer is the primary tank. Located between the two tanks is the fuel solenoid valve assembly with lines connecting to each tank. When the generator set is started, a fuel boost pump located inside the set draws fuel from the primary tank. As the fuel leaves the tank it passes through the solenoid valve assembly, fuel shutoff valve (inlet), and into the fuel filter/water separator. The fuel filter/water separator removes most of the foreign particles and water found in the fuel. The fuel then passes through the fuel shutoff valve (outlet) and into the fuel manifold. The fuel will flow through the fuel check valve into whichever generator set is operating. The fuel check valve also serves as a shutoff valve when the generator set is not running.

1-12. FUEL SYSTEM (CONT)


GENERATOR SET
GENERATOR SET
FUEL CHECK VALVE
FUEL CHECK VALVE
FUEL MANIFOLD
FUEL SHUTOFF VALVE (INLET)
FUEL FILTER/ WATER SEPARATOR
FUEL SHUTOFF VALVE (OUTLET)
SOLENOID VALVE ASSEMBLY
FUEL - LEVEL SENSOR
FUEL - LEVEL SENSOR
PRIMARY FUEL TANK
VALVE GATE
SECONDARY FUEL TANK
FUEL FLOW

If fuel level in the primary tank is low, the fuel will come from the secondary tank and will follow the same flow pattern explained above. A valve gate is connected to the primary and secondary fuel tanks to drain fuel from the secondary tank to the primary tank if the fuel-level sensor malfunctions or if fuel is being drained from the Electric Power Unit.

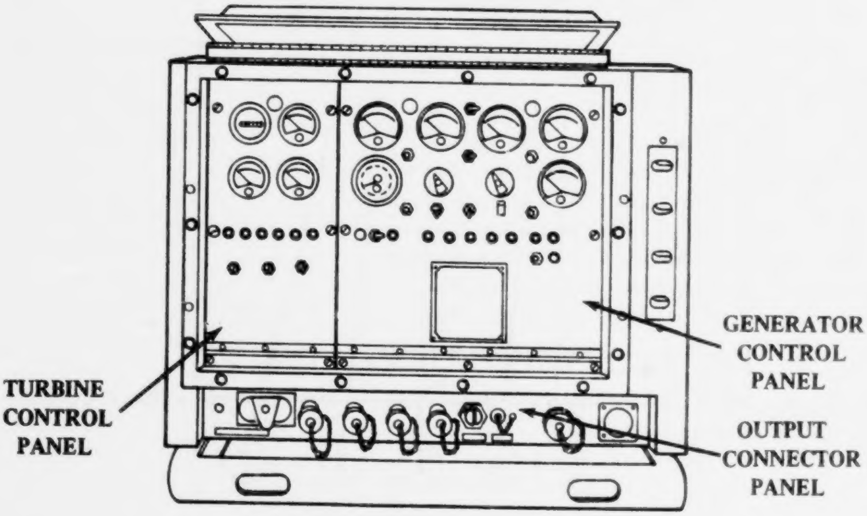
CHAPTER 2

OPERATING INSTRUCTIONS

	Para
Introduction	2-1
Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS	
General	2-2
Turbine Control Panel	2-3
Generator Control Panel	2-4
Output Connector Panel	2-5
Section II. OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)	
General	2-6
Preventive Maintenance Checks and Services Procedures	2-7
Section III. OPERATION UNDER USUAL CONDITIONS	
General	2-8
Operating Procedures	2-9
Preparation for Movement	2-10
Section IV. OPERATION UNDER UNUSUAL CONDITIONS	

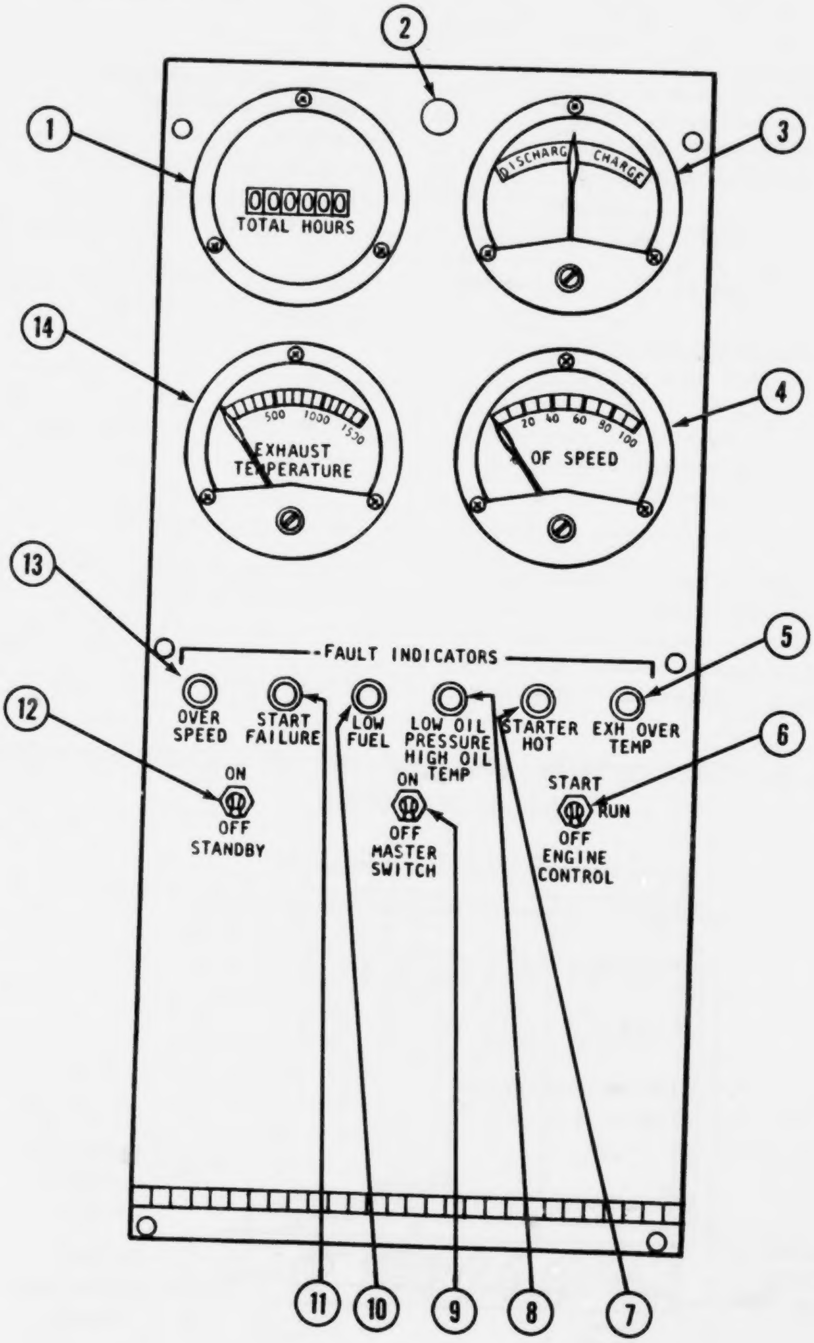
2-1. INTRODUCTION. This chapter describes procedures used by the operator for maintaining and operating the Electric Power Unit (EPU), AN/MJQ-21. Section I describes controls, indicators, and connectors. Section II lists and describes preventive maintenance checks and services (PMCS). Section III describes operation under usual conditions. Section IV describes operation under unusual conditions.

Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS



2-2. GENERAL. This section describes controls, indicators, and connectors located on all three panels of the MEP404B generator set, then the specific panels in order of use. First the turbine control panel; second, the generator control panel; then, the output connector panel.

2-3. TURBINE CONTROL PANEL



2
1
3
000000
TOTAL HOURS
DISCHARGE
CHARGE
14
4
500
1000
1500
EXHAUST TEMPERATURE
20
40
60
80
100
% OF SPEED
13
5
FAULT INDICATORS
OVER SPEED
START FAILURE
LOW FUEL
LOW OIL PRESSURE HIGH OIL TEMP
STARTER HOT
EXH OVER TEMP
12
6
ON
OFF
STANDBY
ON
OFF
MASTER SWITCH
START
RUN
OFF
ENGINE CONTROL
11
10
9
8
7

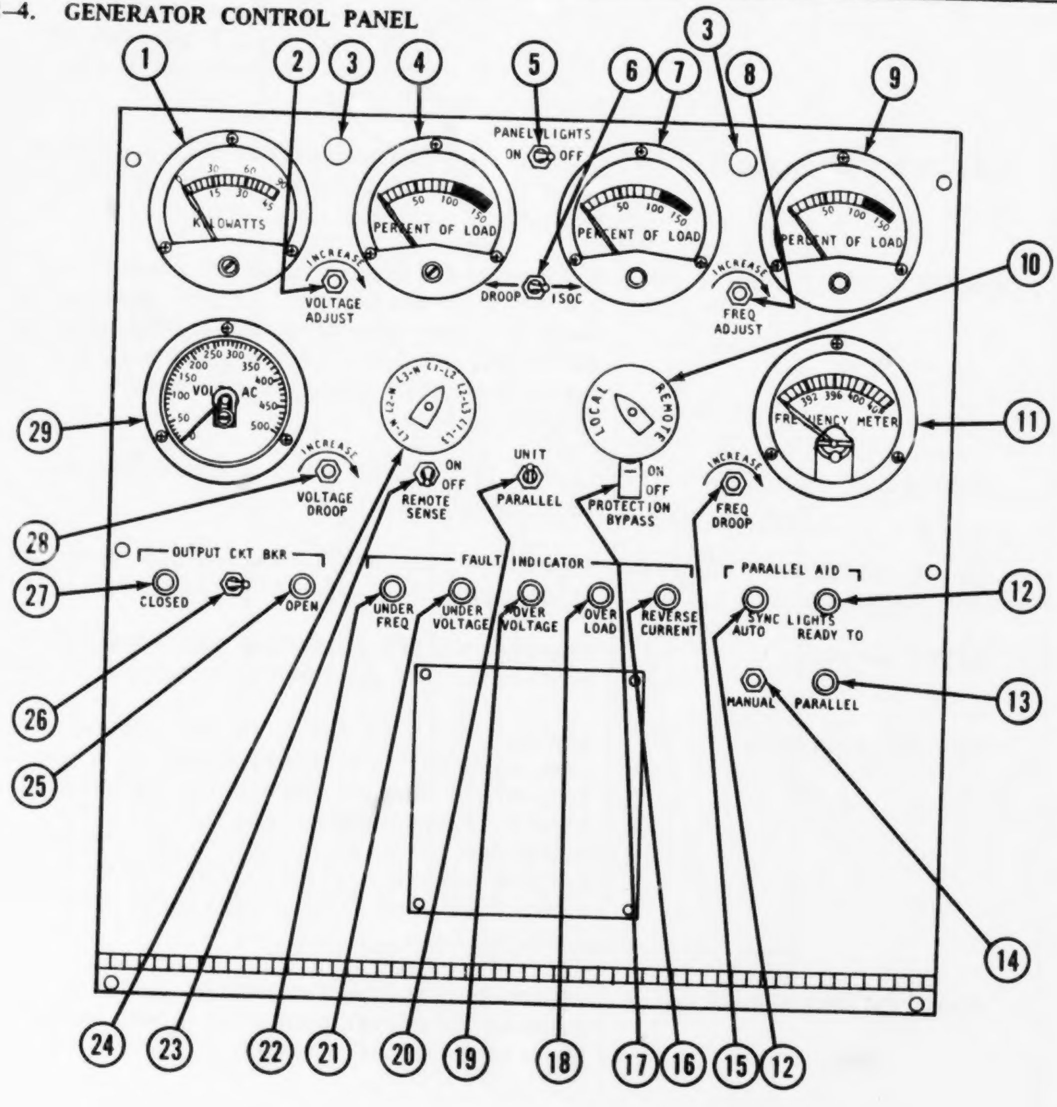
2-3. TURBINE CONTROL PANEL (CONT)

Key	Control or Indicator	Function
1	Hour meter	Indicates total accumulated operating time on generator set.
2	Panel light	Provides light for turbine control panel.
3	Ammeter	Indicates if battery charging system is charging or discharging.
4	TACHOMETER % OF SPEED	A tachometer that indicates percentage of normal operating speed of gas turbine engine. Display begins at 2 percent of normal engine speed. Normal operating speed is 100 percent.
5	EXH OVER TEMP indicator	Lights when temperature of engine exhaust exceeds safe operating limits (1230°F/666°C).
6	ENGINE CONTROL switch	Spring-loaded switch used to start, run, and stop generator set. START position is used to start generator set. RUN position is normal position during generator set operation. OFF position shuts down generator set.
7	STARTER HOT indicator	Lights if starter motor becomes too hot from excessive cranking.
8	LOW OIL PRESSURE/HIGH OIL TEMP indicator	Lights if gas turbine engine oil pressure drops below safe operating limits.
9	MASTER SWITCH	Provides ON/OFF switching and overload protection for dc control circuits.
10	LOW FUEL indicator	Lights when fuel level in fuel filter tank assembly (day tank) drops to a predetermined level. When this indicator lights, PROTECTION BYPASS switch (17, paragraph 2-4) can be set to ON and gas turbine engine restarted and operated for about 2 minutes before remaining fuel runs out.
11	START FAILURE indicator	Lights if gas turbine engine fails to come up to normal operating speed within 60 seconds after startup.

2-3. TURBINE CONTROL PANEL (CONT)

Key	Control or Indicator	Function
12	STANDBY SWITCH	Not used. Must be in OFF position at all times.
13	OVER SPEED indicator	Lights if gas turbine engine speed exceeds normal operating speed by 8 percent.
14	EXHAUST TEMPERATURE meter	Indicates turbine engine exhaust temperature in degrees Fahrenheit.

2-4. GENERATOR CONTROL PANEL


1
2
3
4
5
6
7
3
8
9
KILOWATTS
PERCENT OF LOAD
PANEL LIGHTS
ON
OFF
PERCENT OF LOAD
PERCENT OF LOAD
INCREASE
VOLTAGE ADJUST
DROOP
ISOC
INCREASE
FREQ ADJUST
10
VOLTS AC
L1-N L2-N L3-N L1-L2 L2-L3 L3-L1
LOCAL
REMOTE
FREQUENCY METER
11
29
INCREASE
VOLTAGE DROOP
ON
OFF
REMOTE SENSE
UNIT PARALLEL
ON
OFF
PROTECTION BYPASS
INCREASE
FREQ DROOP
28
OUTPUT CKT BKR
FAULT INDICATOR
PARALLEL AID
27
CLOSED
OPEN
UNDER FREQ
UNDER VOLTAGE
OVER VOLTAGE
OVER LOAD
REVERSE CURRENT
SYNC LIGHTS
AUTO
READY TO
12
MANUAL
PARALLEL
13
26
25
14
24
23
22
21
20
19
18
17
16
15
12

2-4. GENERATOR CONTROL PANEL (CONT)

Key	Control or Indicator	Function
1	KILOWATTS meter	Upper scale displays power output of generator. Lower scale displays output of current transformer.
2	VOLTAGE ADJUST control	Used to adjust ac output voltage of generator.
3	Panel lights	Provide light for generator control panel.
4	PERCENT OF LOAD AC ammeter	Indicates ac output load of phase A.
5	PANEL LIGHTS switch	Turns panel lights on or off.
6	DROOP/ISOC switch	This switch must always be in the ISOC position. DROOP mode is not used for Electric Power Unit operation.
7	PERCENT OF LOAD AC ammeter	Indicates ac output load of phase B.
8	FREQ ADJUST control	Used to adjust output frequency of generator set.
9	PERCENT OF LOAD AC ammeter	Indicates ac output load of phase C.
10	LOCAL/REMOTE switch	Stays in LOCAL position. REMOTE position not used in Electric Power Unit operation.
11	FREQUENCY METER	Indicates frequency of output voltage.
12	PARALLEL AID SYNC LIGHTS	Assists the operator in determining that the generators are ready for parallel operation.
13	READY TO PARALLEL indicator	Indicates generators are ready to power a common load.
14	Paralleling aid switch	Stays in AUTO position. MANUAL position not used in Electric Power Unit operation.
15	FREQ DROOP control	Not used in Electric Power Unit operation.

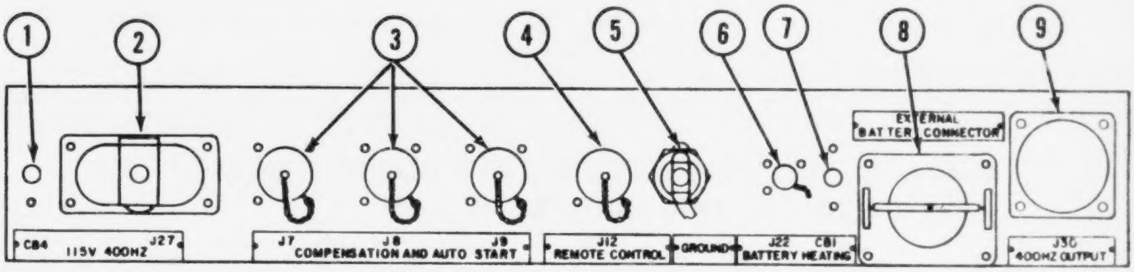
2-4. GENERATOR CONTROL PANEL (CONT)

Key	Control or Indicator	Function
16	REVERSE CURRENT indicator	Indicates when a reverse current condition exists.
17	PROTECTION BYPASS switch	Used to bypass all protection circuits except overspeed and overcurrent during generator set operation. The protective cap must be in closed position during normal operation.
18	OVER LOAD indicator	Lights when output current of generator set exceeds three times maximum rated current.
19	OVER VOLTAGE indicator	Lights if generator output voltage rises above 130 percent of rated value.
20	UNIT/PARALLEL switch	Stays in UNIT position when one generator is operational. Stays in PARALLEL position when two generators are powering a common load.
21	UNDER VOLTAGE indicator	Lights if generator set output voltage drops to about 55 percent of rated value.
22	UNDER FREQ indicator	Lights if output frequency drops below 368 hertz.
23	REMOTE SENSE switch	In ON position, this switch allows for voltage sensing at the load.
24	Voltmeter phase selector switch	Used to select output phase to be monitored on VOLTS AC meter.
25	OUTPUT CKT BKR OPEN indicator	Lights when generator set is operating and output contactor is open.
26	OUTPUT CKT BKR switch	Used to open or close output contactor.
27	OUTPUT CKT BKR CLOSED indicator	Lights if generator set is operating and output contactor is closed.
28	VOLTAGE DROOP control	Not used in Electric Power Unit operation.

2-4. GENERATOR CONTROL PANEL (CONT)

Key	Control or Indicator	Function
29	VOLTS AC meter	Indicates output voltage of one leg of ac generator. Phase to be monitored is selected by voltmeter phase selector switch (25).

2-5. OUTPUT CONNECTOR PANEL



1
2
3
4
5
6
7
8
9
EXTERNAL BATTERY CONNECTOR
CB4
115V 400HZ
J27
J7
J8
J9
COMPENSATION AND AUTO START
J12
REMOTE CONTROL
GROUND
J22
CB1
BATTERY HEATING
J30
400HZ OUTPUT

Key	Control or Indicator	Function
1	Convenience receptacle circuit breaker CB4	A reset button that provides overload protection and on/off switching for convenience outlet J27 (2, paragraph 2-5).
2	115V 400HZ convenience receptacle J27	Provides access to 115V 400HZ output.
3	COMPENSATION AND AUTO START connectors J7, J8, and J9	Provides access for auto start and compensation cable assembly on both generators.
4	REMOTE CONTROL connector J12	Not used for remote control, but provides access to vdc output signal cable connection.
5	GROUND lug	Used to ground generator set.
6	BATTERY HEATING connector J22	Provides means to heat generator set batteries under unusual operating conditions.

2-5. OUTPUT CONNECTOR PANEL (CONT)

Key	Control or Indicator	Function
7	BATTERY HEATING circuit breaker CB1	Provides overload protection and on/off switching for BATTERY HEATING connector J22.
8	EXTERNAL BATTERY CONNECTOR slave receptacle J29	Used to connect generator set to external battery (slave start).
9	J30 400HZ OUTPUT connector	Used to connect the output power supplied by the generator set to the W9 or W10 power cable.

Section II. OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-6. GENERAL. The Electric Power Unit must be regularly inspected to find and correct defects; failure to do so may result in serious damage or failure. Regular inspection will show if the Electric Power Unit is fully operational and reliable. Preventive maintenance checks and services for the generator sets are contained in TM 5-6115-603-12; they will be performed first. Preventive maintenance checks and services for the M353 (modified) 3½-ton trailer are contained in TM 9-2330-247-14; they will be performed after completing the procedures that follow. The procedures below will be followed to perform your preventive maintenance checks and services:

a. Before You Operate. Always keep in mind the CAUTIONS and WARNINGS. Perform your before (B) preventive maintenance checks and services.

b. While You Operate. Always keep in mind the CAUTIONS and WARNINGS. Perform your during (D) preventive maintenance checks and services.

c. After You Operate. Be sure to perform your after (A) preventive maintenance checks and services.

d. If Your Equipment Fails to Operate. Troubleshoot with proper equipment. Report deficiencies to organizational maintenance by using the proper forms. See DA Pam 738-750.

2-7. PREVENTIVE MAINTENANCE CHECKS AND SERVICES PROCEDURES. Table 2-1 describes preventive maintenance required for the Electric Power Unit; this excludes generator sets and trailer. Refer to TM 5-6115-603-12 for those checks required during (D) operation and after (A) operation of generator sets. Table 2-1 consists of five columns containing the following:

2-7. PREVENTIVE MAINTENANCE CHECKS AND SERVICES PROCEDURES (CONT)

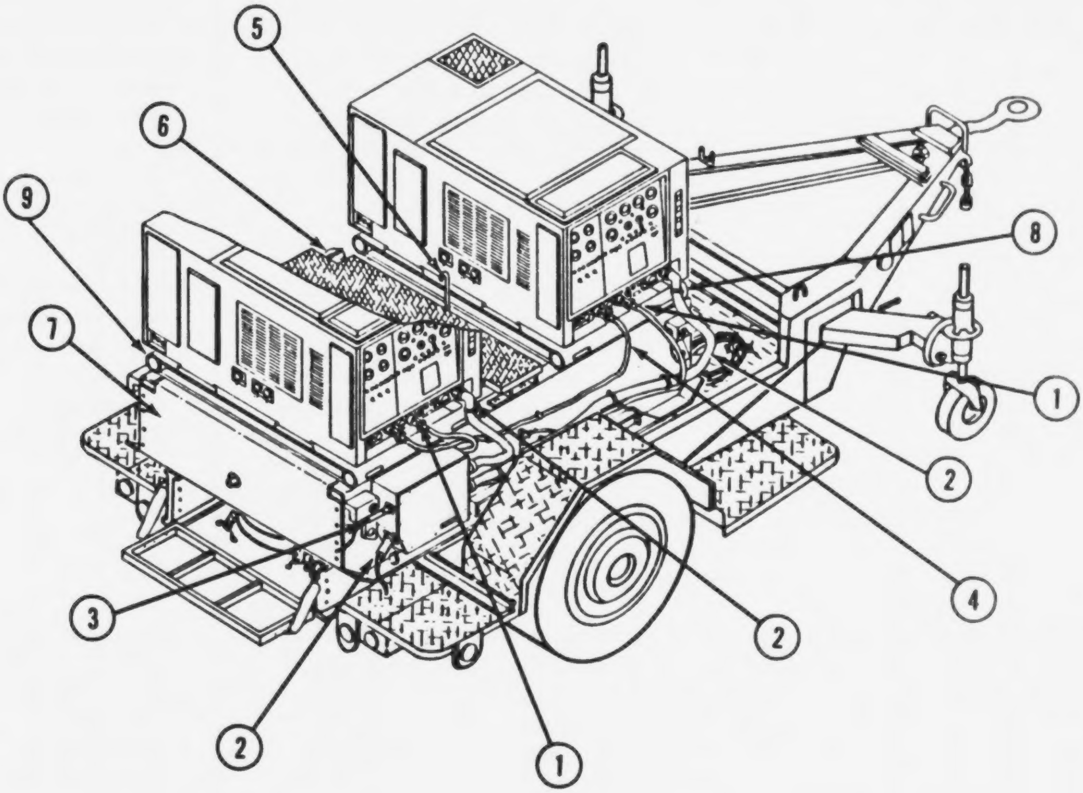
a. Item Number. Checks and services are numbered in order of performance. These numbers will be used in the "TM Number" column on DA Form 2404 (Equipment Inspection and Maintenance Worksheet) to record results of preventive maintenance checks and services.

b. Interval. The columns headed "B," "D," and "A" contain dots (●) opposite the proper checks.

c. Items To Be Inspected. Items listed in this column are identified by their common names.

d. Procedures. This column contains all information required to accomplish checks and services.

e. Equipment Is Not Ready/Available If: This column contains criteria that will cause equipment to be classified not ready/available because of its inability to perform its primary mission.



2-7. PREVENTIVE MAINTENANCE CHECKS AND SERVICES PROCEDURES (CONT)

Table 2-1. Operator Preventive Maintenance Checks and Services

WARNING

Noise level of this generator can cause hearing damage. Ear protectors, as recommended by the medical or safety officer, must be worn when working near this set.

NOTE

If the equipment must be kept in continuous operation, check and service only those items that can be checked and serviced without disturbing operation. Perform the complete checks and services when the equipment can be shut down.

B - Before D - During A - After

Item No.	Interval			Item to be Inspected	Procedures Check for and have repaired, or adjust as necessary	Equipment Is Not Ready/ Available If:
	B	D	A			
1	●			W7 and W8 signal cables	Check both cables for loose connections, and loose, damaged, or missing parts at J12 on both generator sets and at PDU.	Connector(s) won't tighten, are damaged, or are missing. Bare wires exposed.
2	●			W1, W9, and W10 power cables	Check for loose connections and loose, damaged, or missing parts at J30 on each generator set and on input connectors for the PDU. Check W1 power cable for loose connections at J2 on the ICC or CRG and at J1 on the PDU.	Connector(s) won't tighten, are damaged, or are missing. Bare wires exposed.
3	●			W5 cable	Check for loose connections and loose, damaged, or missing parts at J6 on the Power Distribution Unit and at J5 on the ICC or CRG.	Connector(s) won't tighten, are damaged, or are missing. Bare wires exposed.

2-7. PREVENTIVE MAINTENANCE CHECKS AND SERVICES PROCEDURES (CONT)

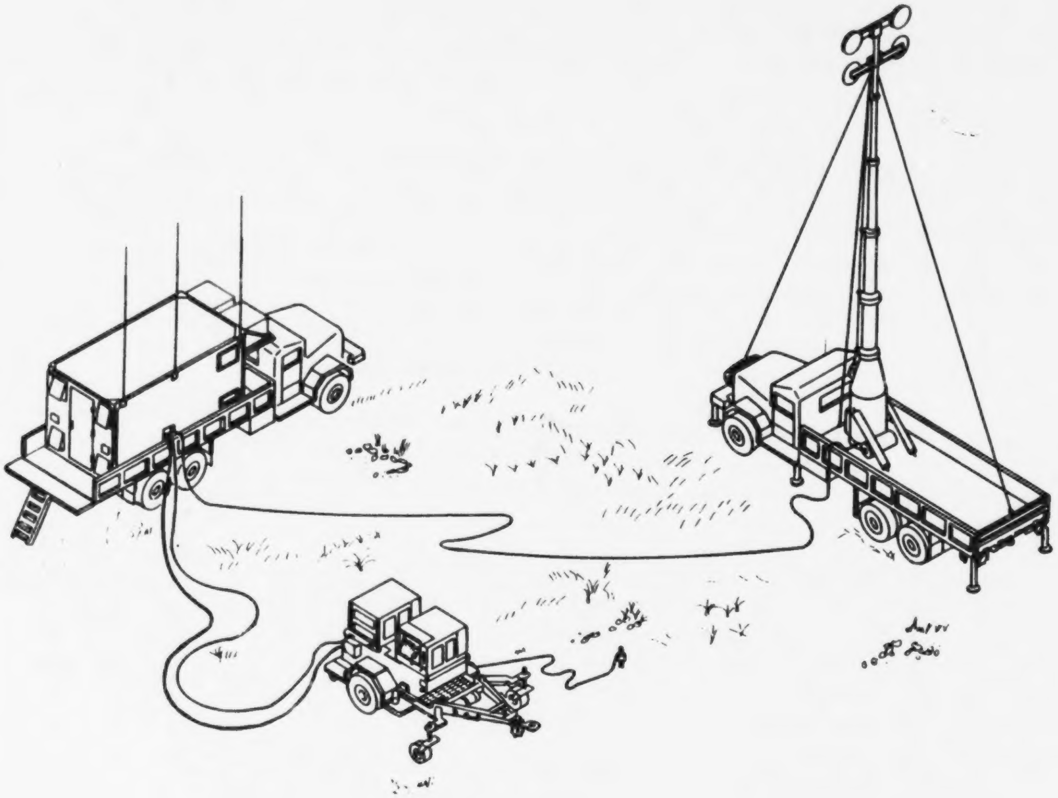
Table 2-1. Operator Preventive Maintenance Checks and Services (Cont)

B - Before D - During A - After

Item No.	Interval			Item to be Inspected	Procedures Check for and have repaired, or adjust as necessary	Equipment Is Not Ready/ Available If:
	B	D	A			
4	●			Auto start and compensation cable assembly	Check for loose connections and loose, damaged, or missing parts at J7 on each generator.	Connector(s) won't tighten, are damaged, or are missing. Bare wires exposed.
5	●			Fuel tank vents	Visually check for damage.	Vents are broken or leaking.
					NOTE The During Operation check will be limited to visual spot checks.	
6	●	●		Fuel-level gages	Visually check fuel-level gages for damage and fuel level.	If both gages indicate less than 1/4 full.
7	●	●		Pallet	Visually check pallet assembly for fuel leaks.	Pallet is leaking fuel, or fuel is present on pallet surface.
8			●	Fuel filter/ water separator	Drain 30 minutes after engine shutdown. (See paragraph 3-4 for procedure.)	
9	●			Ground wire connection	Check for loose, broken, or damaged wire connections at generator set, pallet frame, PDU, trailer frame, and ground rod.	Connector(s) won't tighten. Wire damaged.

Section III. OPERATION UNDER USUAL CONDITIONS

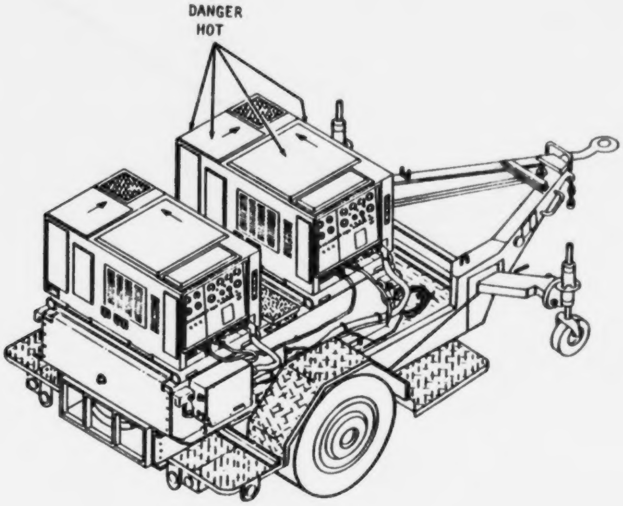
2–8. GENERAL. This section contains step-by-step instructions for preparing the Electric Power Unit (EPU) for operation. This is followed by detailed instructions on operation with or without load applied at the operating site. It also contains procedures for shutting down the Electric Power Unit, and movement to a new site.



Electric Power Unit Operating Site

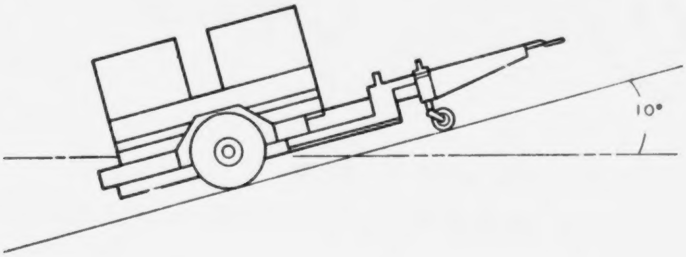
2-9. OPERATING PROCEDURES

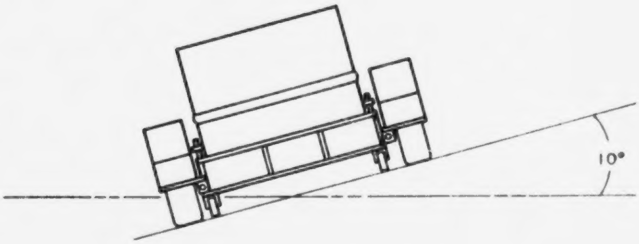
a. Preparation for Operation



WARNING

Hot exhaust may cause fires. Do not park Electric Power Unit close to trees, other plant life, or other flammable objects.

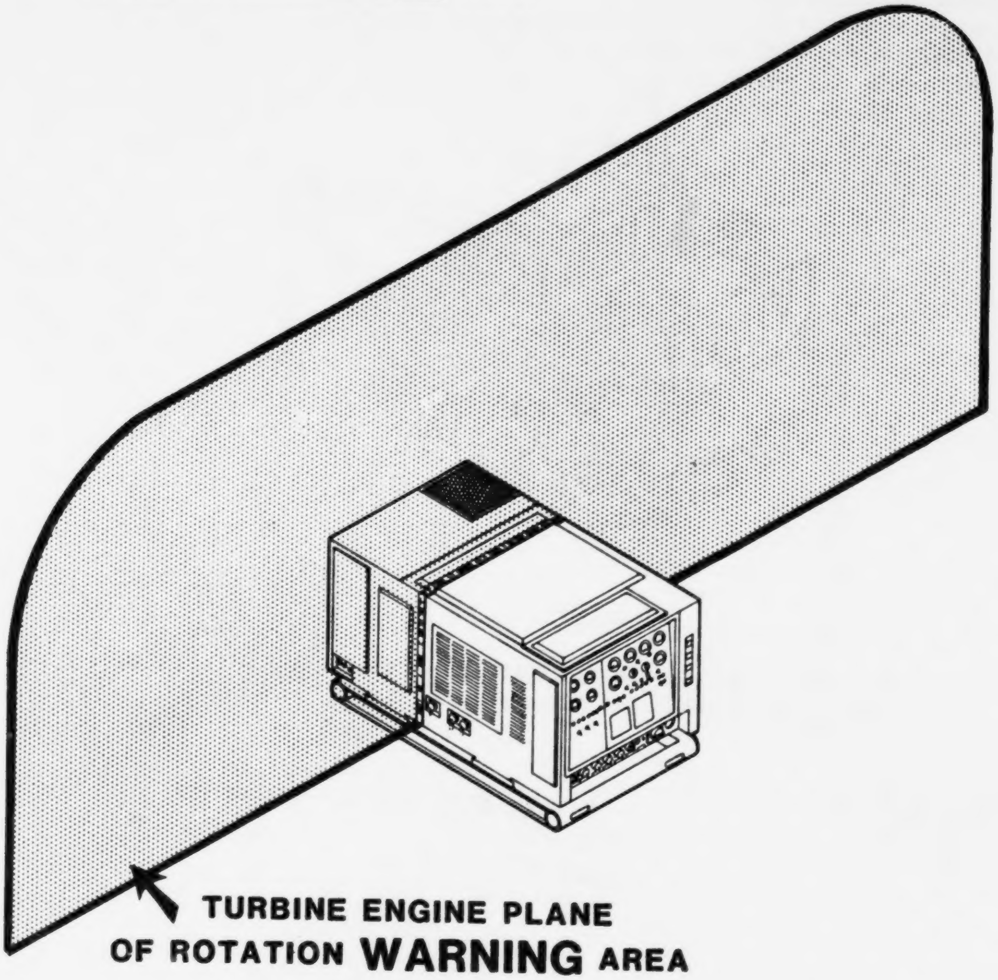




(1) Park Electric Power Unit as level as possible. Maximum allowable slope from front to back or side to side is 10 degrees.

2-9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)

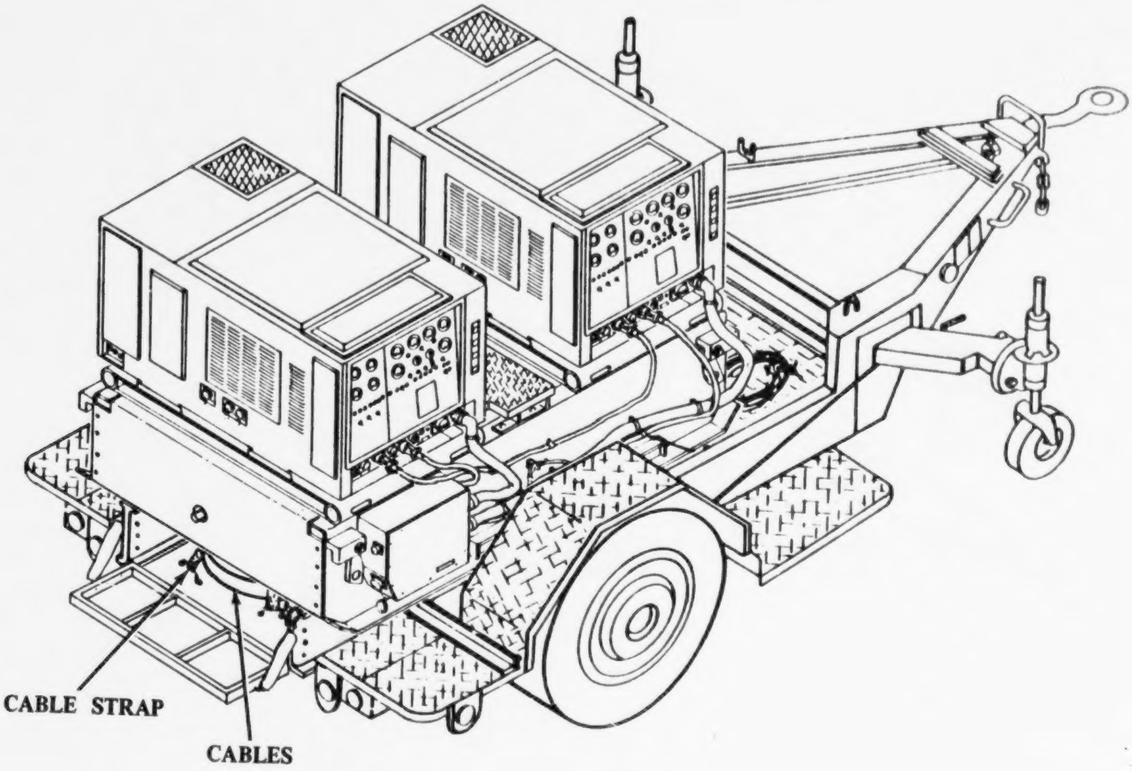

TURBINE ENGINE PLANE
OF ROTATION WARNING AREA

WARNING

Stay at least 20 feet (6.1 meters) away from the turbine engine plane of rotation during operation and especially during startup. Plane of rotation is shown by red area marked on the generator set. Failure to observe this WARNING may result in personal injury or death in case of generator failure.

2-9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)



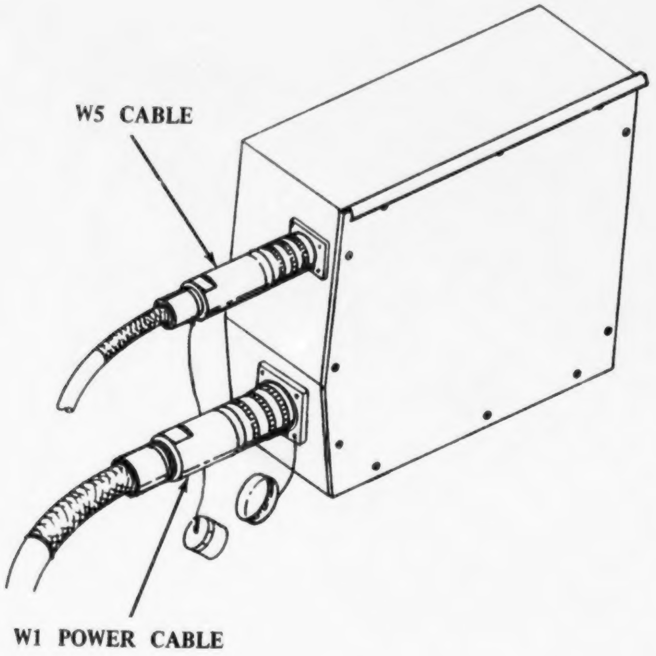
WARNING

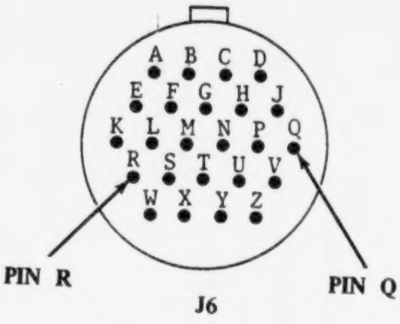
W1 power cable weighs about 180 pounds (81.6 kg). Do not try to carry it by yourself; get help.

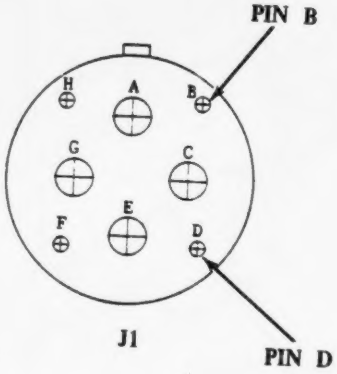
(2) To connect W1 power cable and W5 cable: unbuckle strap holding cables; put cables on ground. Remove the covers from connector P2 on W1 power cable and connector P5 on W5 cable.

2-9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)


W5 CABLE
W1 POWER CABLE


A B C D
E F G H J
K L M N P Q
R S T U V
W X Y Z
PIN R
PIN Q
J6


PIN B
H A B
G C
F E D
J1
PIN D

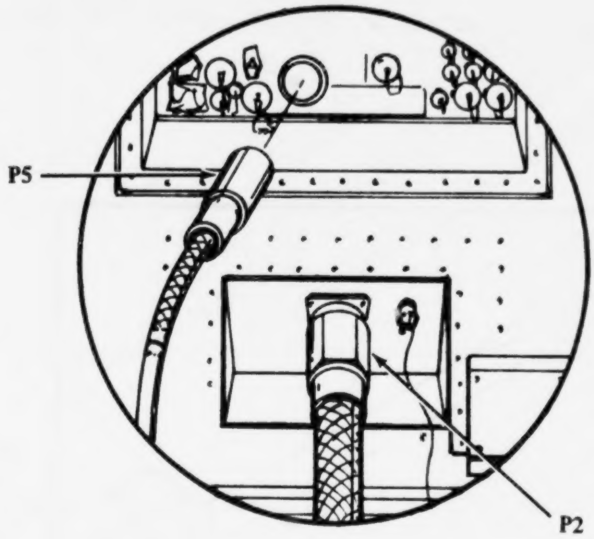
NOTE

If ICC or CRG is not used, place jumper wire between pins Q and R of J6 connector on PDU, and place jumper wire between pins B and D of J1 connector on PDU.

(3) Connect connector P1 of W1 power cable to connector J1 on Power Distribution Unit. Connect connector P6 of W5 cable to connector J6 on Power Distribution Unit, if applicable.

2–9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)



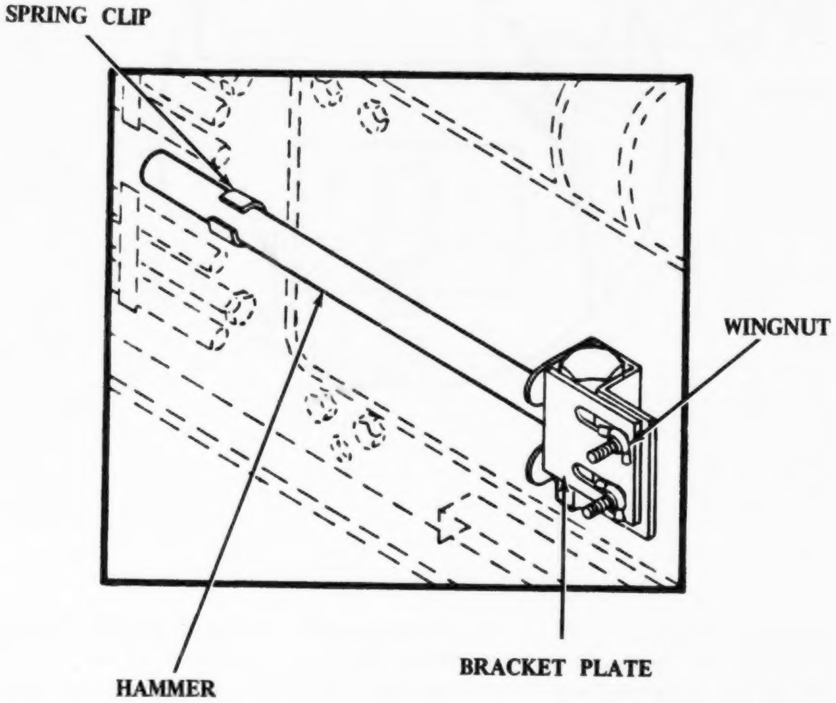
(4) Connect connector P2 of W1 power cable to Information Coordination Central or Communications Relay Group. Connect connector P5 of W5 cable to Information Coordination Central or Communications Relay Group.

2-9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)

WARNING

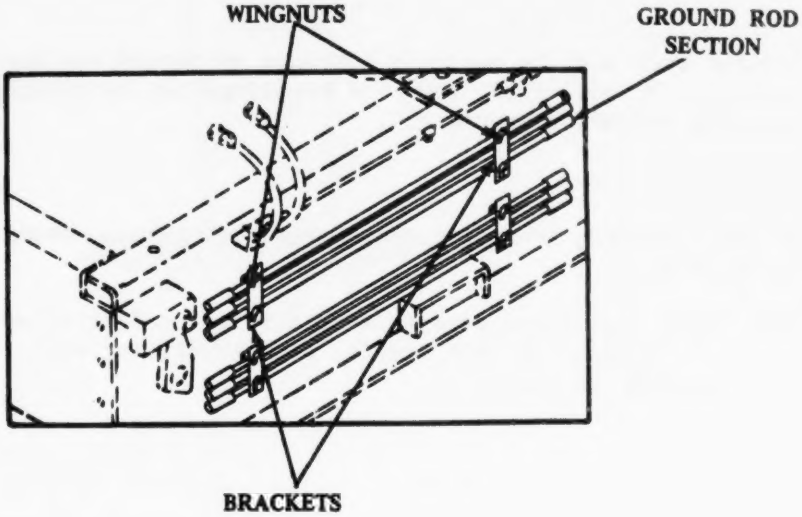
HIGH VOLTAGE may result in DEATH or SEVERE injury. Be sure to ground Electric Power Unit before starting.


SPRING CLIP
WINGNUT
HAMMER
BRACKET PLATE

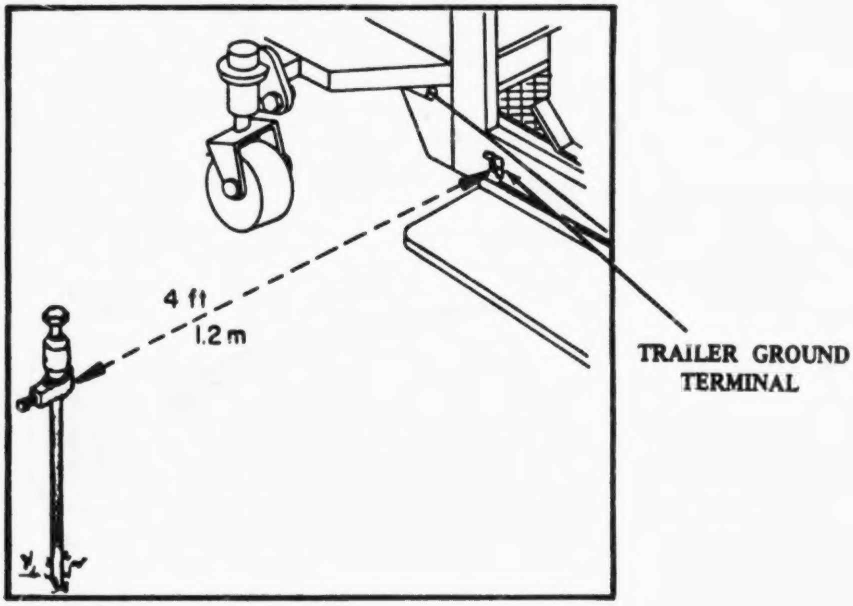
(5) Loosen two wingnuts holding bracket plate. Slide bracket plate to right, far enough so that hammerhead can be removed. Pull hammer out of spring clip and bracket.

2-9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)


WINGNUTS
GROUND ROD SECTION
BRACKETS

(6) Remove one ground rod section by loosening four wingnuts on two brackets.


4 ft
1.2 m
TRAILER GROUND TERMINAL

(7) Select spot on ground near left front of trailer and locate the ground rod as near as possible to the unit.

2-9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)

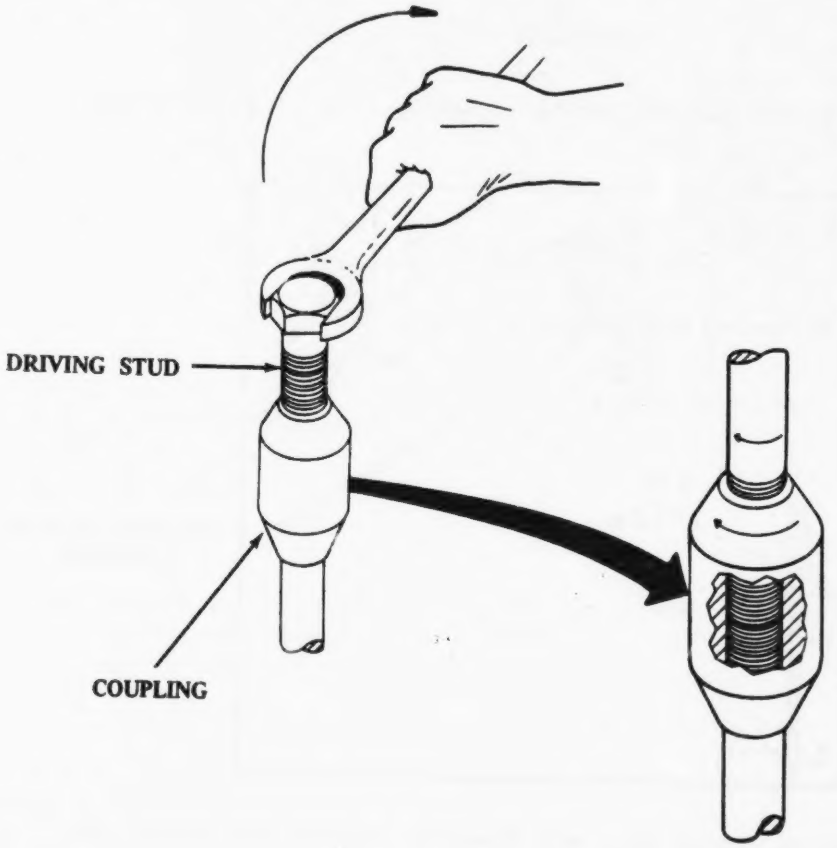
CAUTION

Driving stud must be securely bottomed on ground rod before hammering on stud. If not, stud, rod, and couplings may be damaged. Never hit coupling or end of ground rod.

NOTE

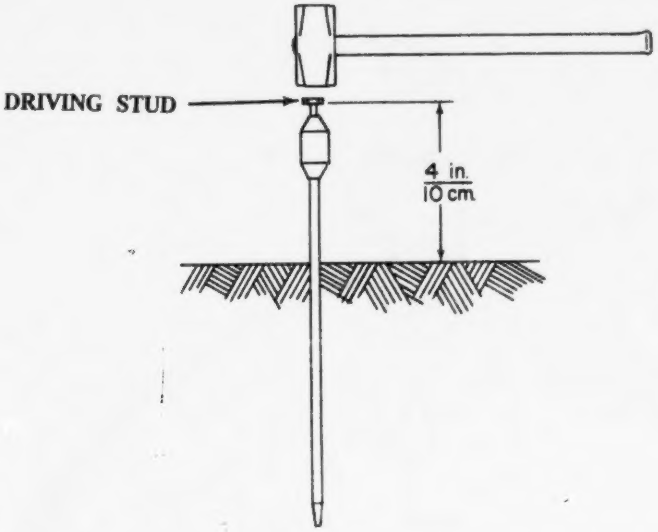
If the following grounding procedures cannot be accomplished, refer to FM 20-31.

(8) Find ground rod section with driving stud attached. Using 15/16-inch open-end wrench, tighten driving stud into coupling by turning to right.

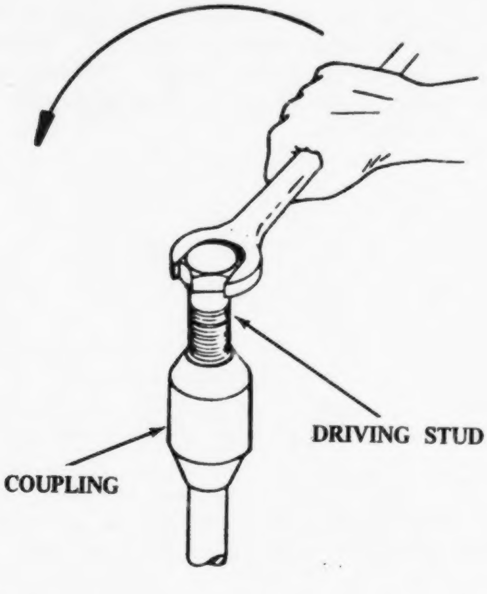


2-9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)


DRIVING STUD
4 in.
10 cm

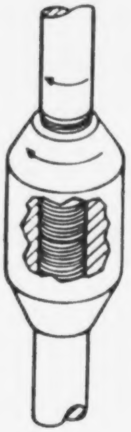
(9) Hold rod vertically over selected spot; hit driving stud with hammer. Drive rod into ground until driving stud is about 4 inches (10 centimeters) above ground level.


DRIVING STUD
COUPLING

(10) Using 15/16-inch open-end wrench, unscrew driving stud by turning to left until it comes off. Hand-tighten the coupling again.

2-9. OPERATING PROCEDURES (CONT)

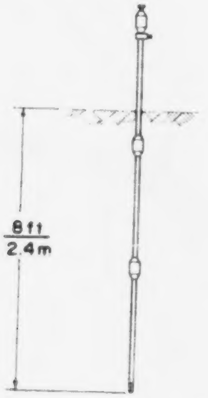
a. Preparation for Operation (Cont)



NOTE

Top ground rod section must firmly contact bottom ground rod section inside coupling.

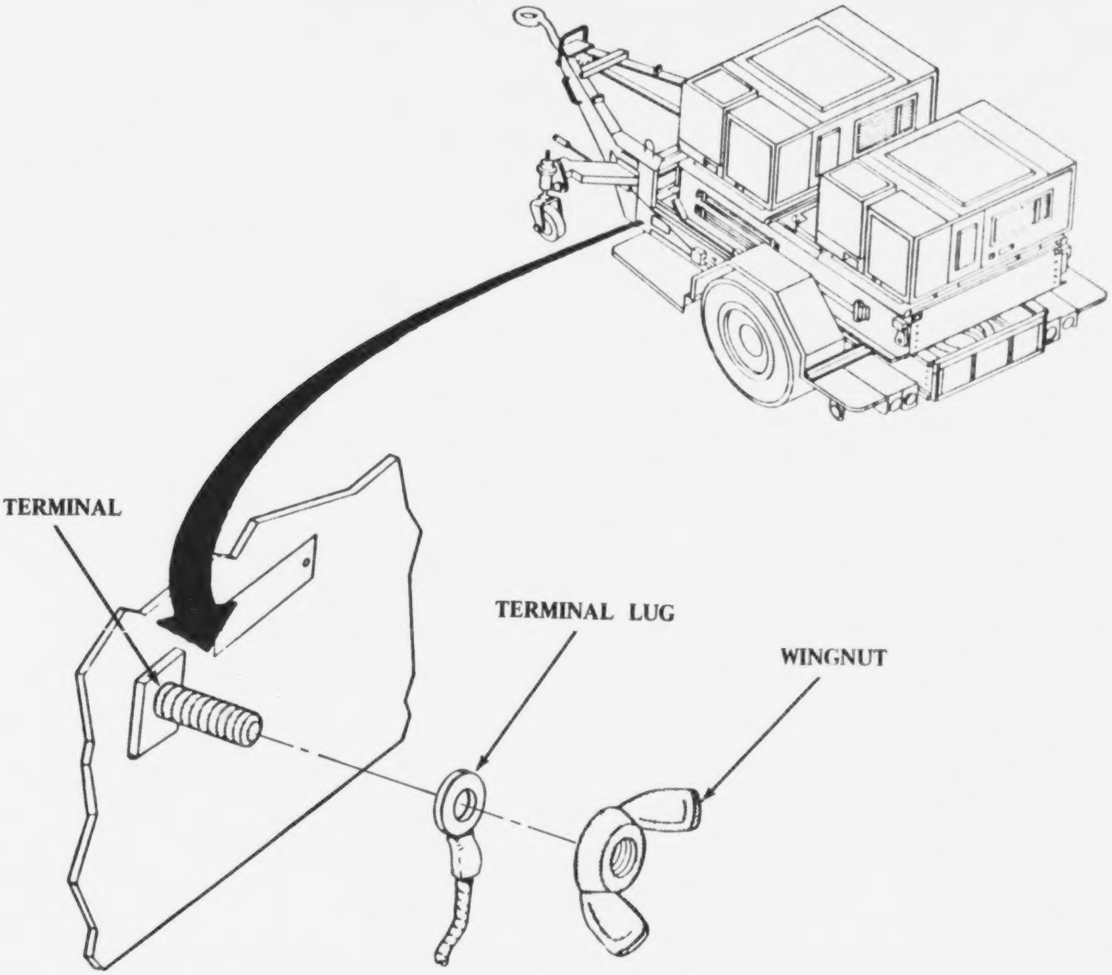
(11) Thread next ground rod section into coupling from step (10); hand-tighten. Using 15/16-inch open-end wrench, tighten driving stud into top coupling by turning to right. Drive rod into ground until driving stud is about 4 inches (10 centimeters) above ground level.



(12) Repeat steps (10) and (11) for third section of ground rod until at least 8 feet (2.4 meters) of ground rod is buried. Leave driving stud securely fastened to top coupling.

2-9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)



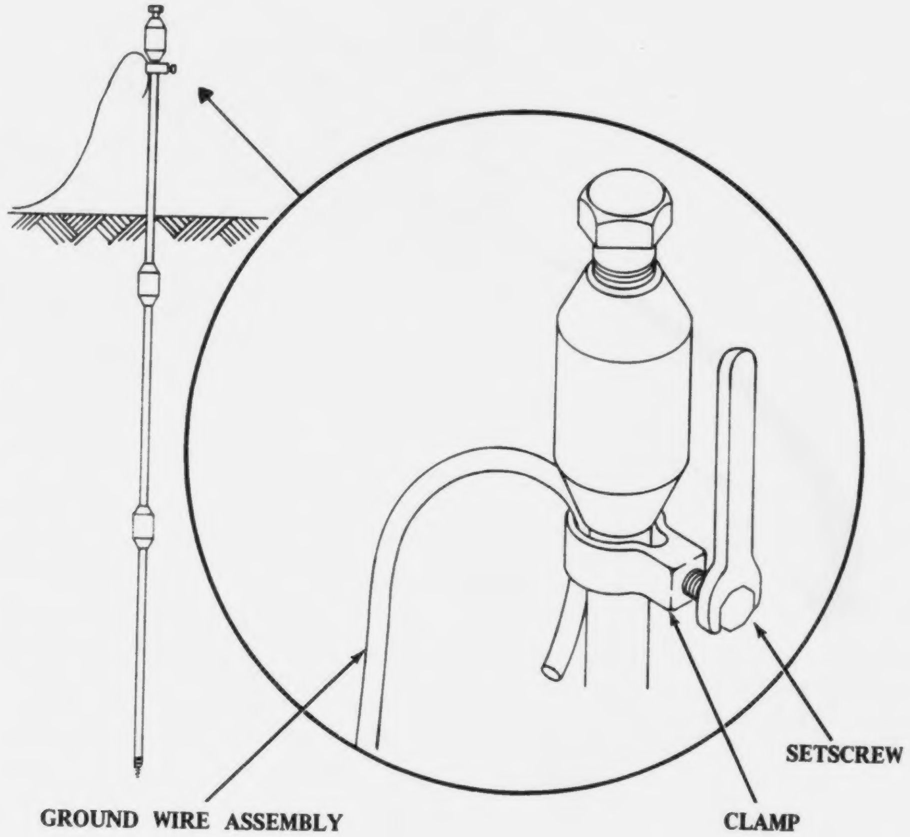
NOTE

Wingnut must be tightly secured to ground terminal.

(13) Locate ground terminal on left front side of trailer. Remove wingnut by turning to left. Using ground wire, slip hole of terminal lug over ground terminal. Tighten wingnut on ground terminal.

2-9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)


GROUND WIRE ASSEMBLY
SETSCREW
CLAMP

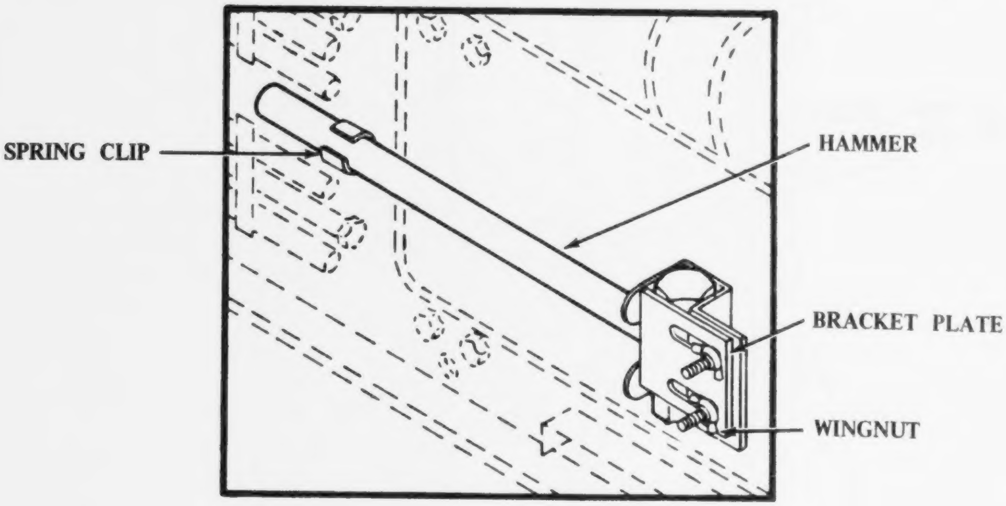
NOTE

There must be tight connections between clamp, rod, and wire.

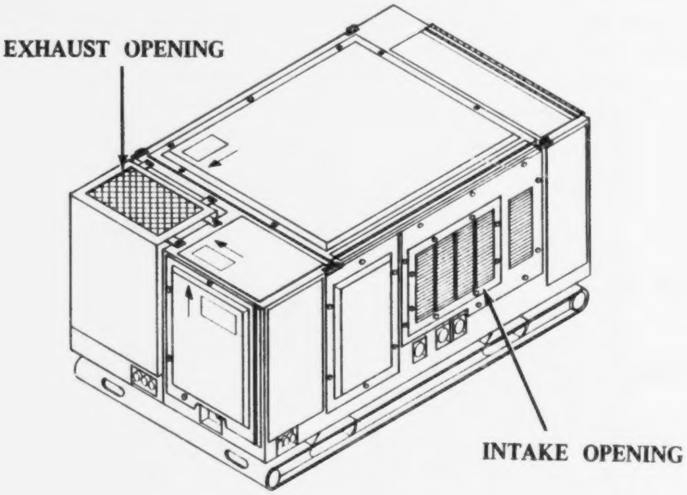
(14) Thread loose end of ground wire assembly through clamp. Fasten clamp on ground rod top section just below top coupling. Using 3/8-inch open-end wrench, tighten setscrew by turning to right.

2-9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)


SPRING CLIP
HAMMER
BRACKET PLATE
WINGNUT

(15) Return hammer to side of pallet; secure it in bracket plate and spring clip, and tighten wingnuts.


EXHAUST OPENING
INTAKE OPENING

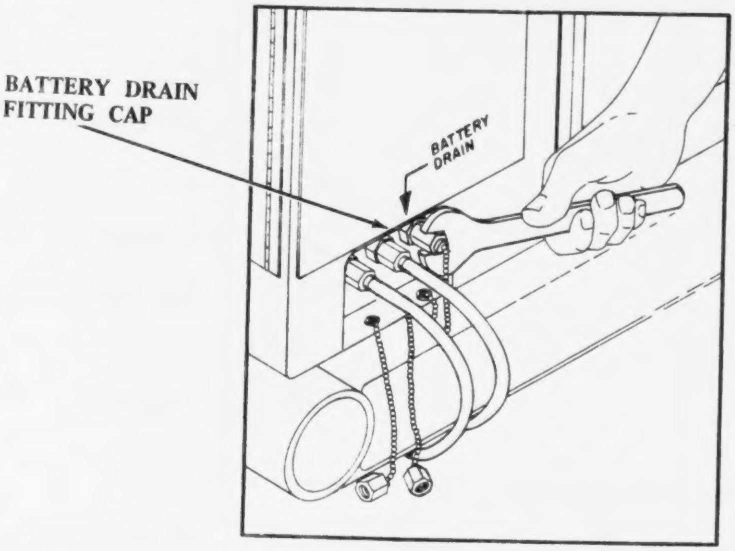
CAUTION

Keep air intake and exhaust openings free of foreign matter. Clogged air intake and exhaust openings will cause engine to run poorly and overheat.

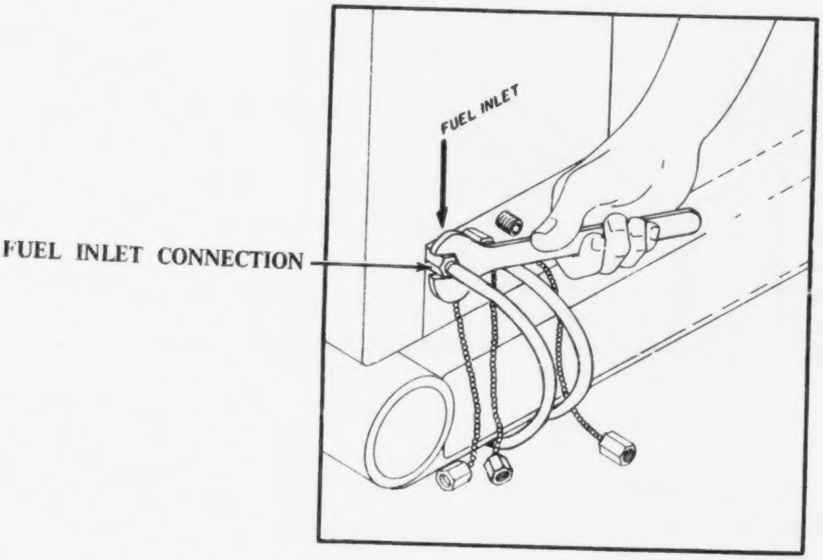
(16) Visually inspect exhaust and intake openings. Clean, if required, by removing foreign matter in and around openings.

2-9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)


BATTERY DRAIN FITTING CAP
BATTERY DRAIN

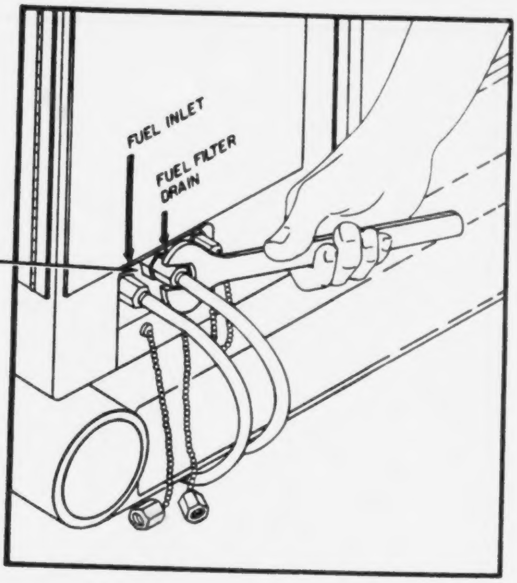
(17) Using 11/16-inch open-end wrench, remove cap from BATTERY DRAIN fitting by turning cap to left.


FUEL INLET
FUEL INLET CONNECTION

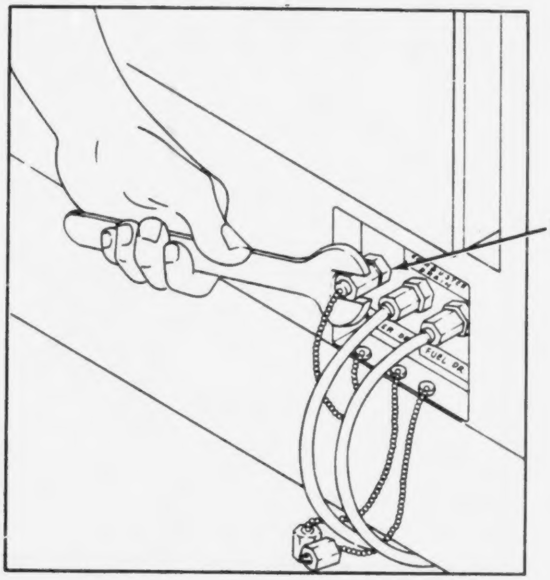
(18) Check for tight FUEL INLET connection. Using 5/8-inch open-end wrench, turn right to tighten.

2-9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)


FUEL INLET
FUEL FILTER DRAIN
FUEL FILTER DRAIN

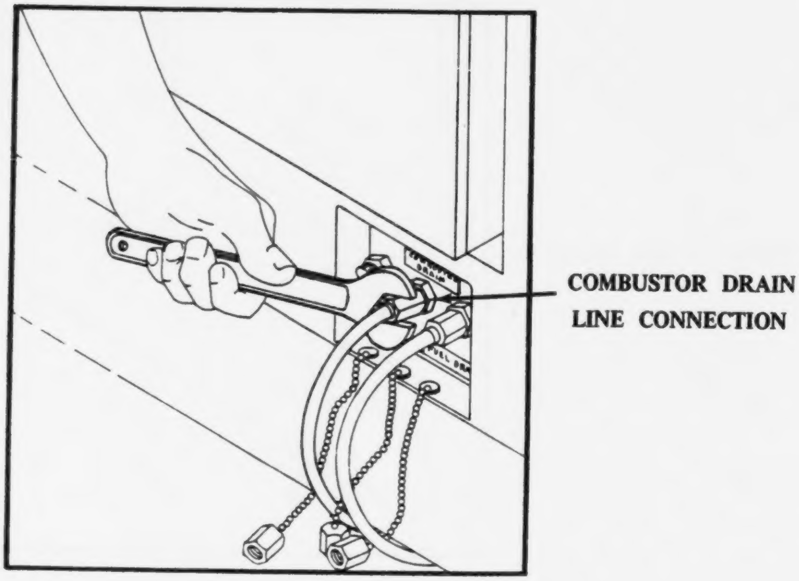
(19) Check for tight FUEL FILTER DRAIN connection. Using 11/16-inch open-end wrench, turn right to tighten.


MUFFLER DRAIN CAP
FUEL DR.

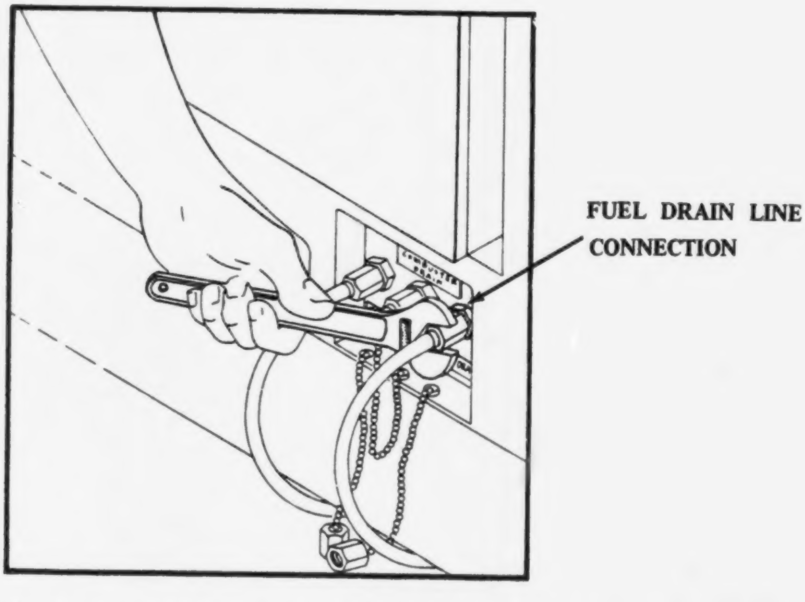
(20) Remove MUFFLER DRAIN cap. Using 11/16-inch open-end wrench, turn left to remove.

2-9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)


COMBUSTOR DRAIN
LINE CONNECTION

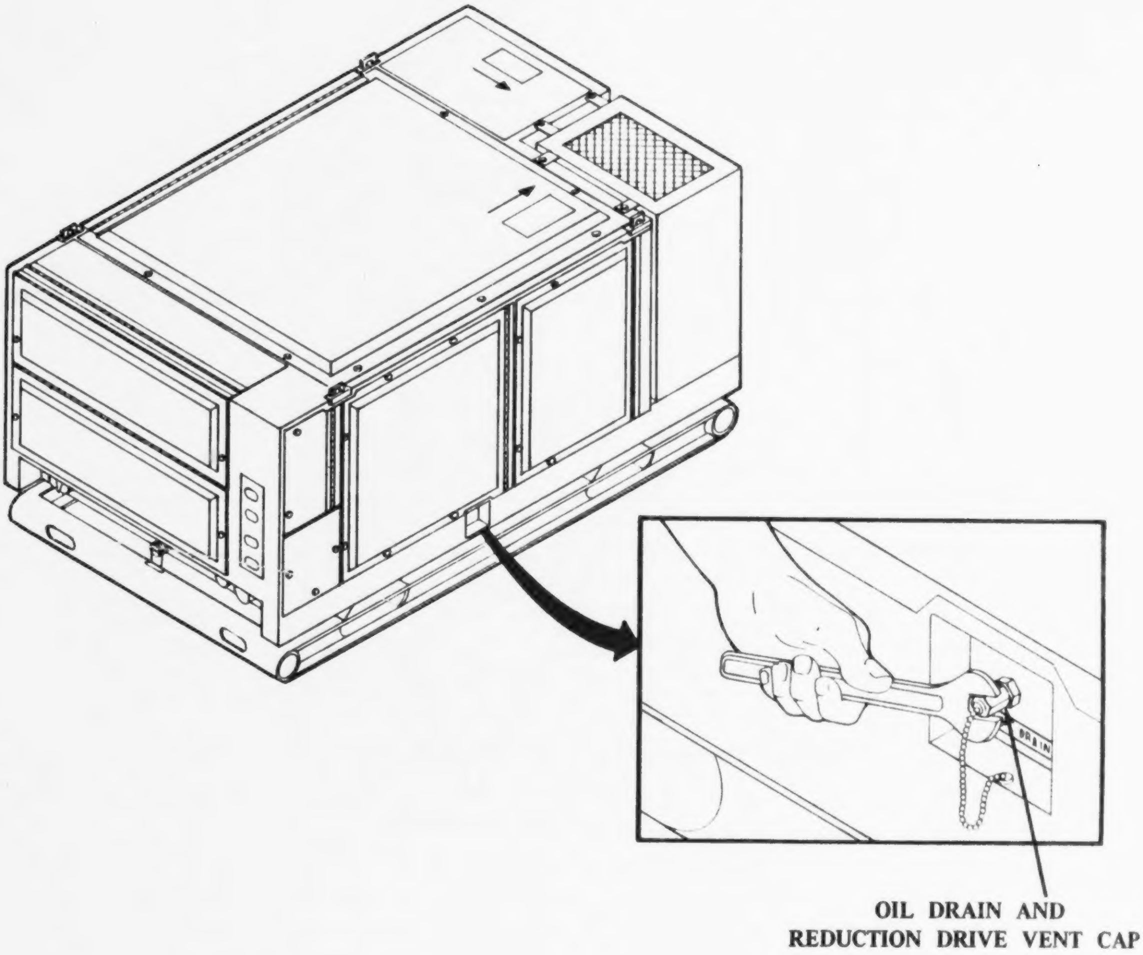
(21) Using 11/16-inch open-end wrench, check COMBUSTOR DRAIN line for tight connection. Turn right to tighten.


FUEL DRAIN LINE
CONNECTION

(22) Using 11/16-inch open-end wrench, check FUEL DRAIN line for tight connection. Turn right to tighten.

2-9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)



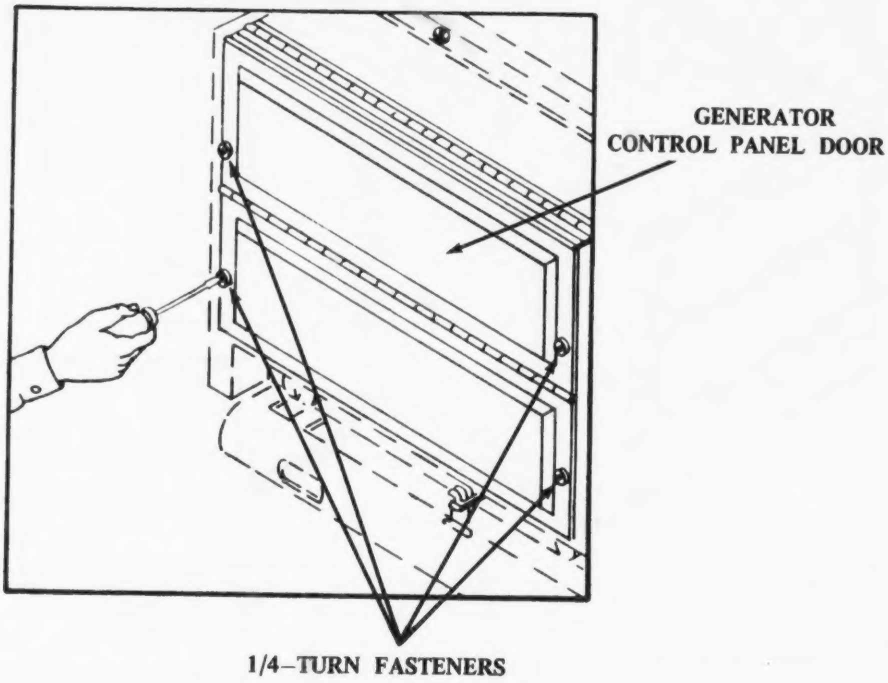
CAUTION

The OIL DRAIN and reduction drive vent serves as air exhaust for gear reduction drive. Cap must be off while generator set is in operation, to prevent overheating and excessive pressure in gear reduction drive.

(23) Remove OIL DRAIN and reduction drive vent cap. Using 7/8-inch open-end wrench, turn cap to left.

2-9. OPERATING PROCEDURES (CONT)

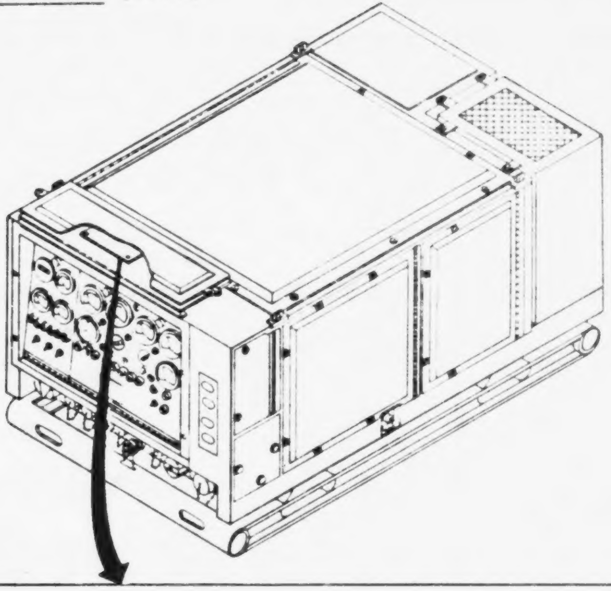
a. Preparation for Operation (Cont)

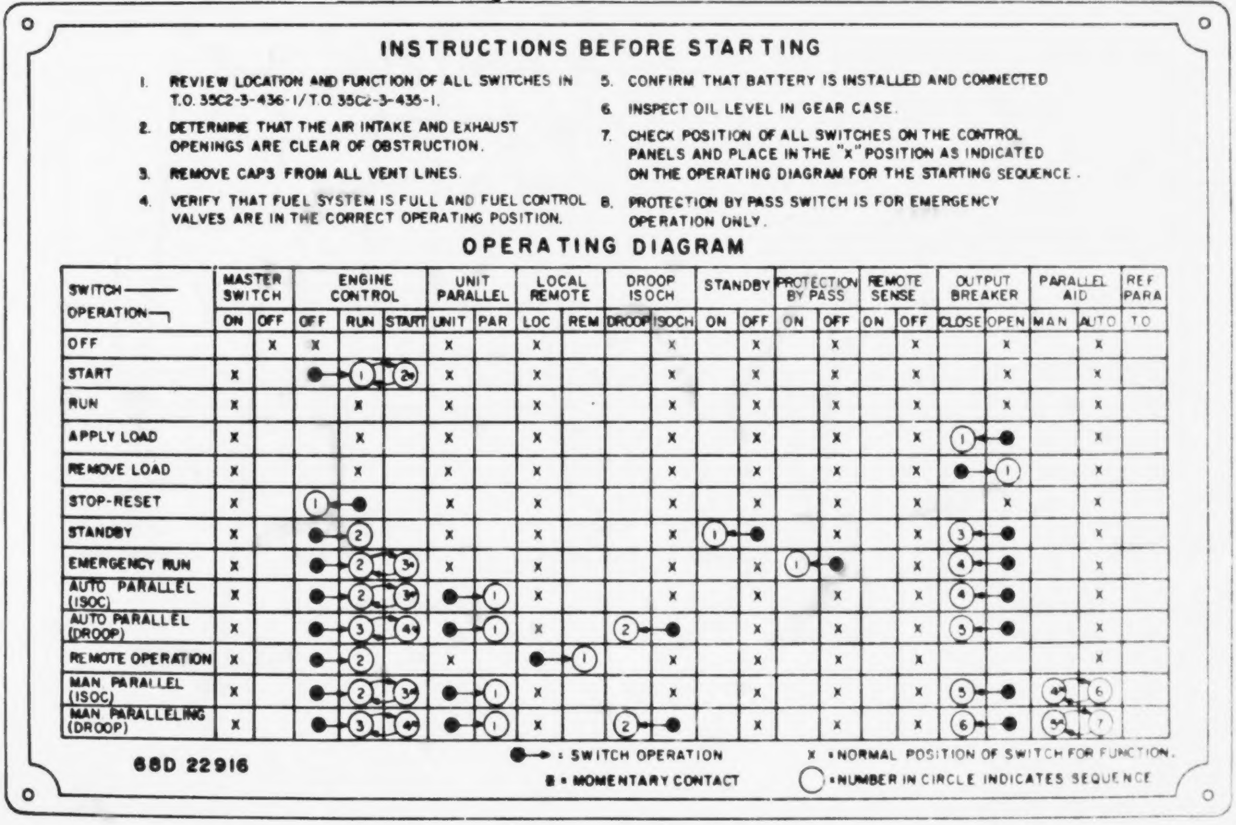

GENERATOR CONTROL PANEL DOOR
1/4-TURN FASTENERS

(24) Open generator control panel door. Using flat-tip screwdriver, turn 1/4-turn fasteners to left. Grasp door; fold on top of generator set.

2-9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)





INSTRUCTIONS BEFORE STARTING

1. REVIEW LOCATION AND FUNCTION OF ALL SWITCHES IN T.O. 35C2-3-436-1/T.O. 35C2-3-435-1.
2. DETERMINE THAT THE AIR INTAKE AND EXHAUST OPENINGS ARE CLEAR OF OBSTRUCTION.
3. REMOVE CAPS FROM ALL VENT LINES.
4. VERIFY THAT FUEL SYSTEM IS FULL AND FUEL CONTROL VALVES ARE IN THE CORRECT OPERATING POSITION.
5. CONFIRM THAT BATTERY IS INSTALLED AND CONNECTED
6. INSPECT OIL LEVEL IN GEAR CASE.
7. CHECK POSITION OF ALL SWITCHES ON THE CONTROL PANELS AND PLACE IN THE "X" POSITION AS INDICATED ON THE OPERATING DIAGRAM FOR THE STARTING SEQUENCE.
8. PROTECTION BY PASS SWITCH IS FOR EMERGENCY OPERATION ONLY.

OPERATING DIAGRAM

SWITCH —— OPERATION ┐	MASTER SWITCH		ENGINE CONTROL			UNIT PARALLEL		LOCAL REMOTE		DROOP ISOCH		STANDBY		PROTECTION BY PASS		REMOTE SENSE		OUTPUT BREAKER		PARALLEL AID		REF PARA
	ON	OFF	OFF	RUN	START	UNIT	PAR	LOC	REM	DROOP	ISOCH	ON	OFF	ON	OFF	ON	OFF	CLOSE	OPEN	MAN	AUTO	TO
OFF		X	X			X		X			X		X		X		X		X		X	
START	X		●	①	②	X		X			X		X		X		X		X		X	
RUN	X			X		X		X			X		X		X		X		X		X	
APPLY LOAD	X			X		X		X			X		X		X		X	①	●		X	
REMOVE LOAD	X			X		X		X			X		X		X		X	●	①		X	
STOP-RESET	X		①	●		X		X			X		X		X		X		X		X	
STANDBY	X		●	②		X		X			X	①	●		X		X	③	●		X	
EMERGENCY RUN	X		●	②	③	X		X			X		X	①	●		X	④	●		X	
AUTO PARALLEL (ISOC)	X		●	②	③	●	①	X			X		X		X		X	④	●		X	
AUTO PARALLEL (DROOP)	X		●	③	④	●	①	X		②	●		X		X		X	⑤	●		X	
REMOTE OPERATION	X		●	②		X		●	①		X		X		X		X				X	
MAN PARALLEL (ISOC)	X		●	②	③	●	①	X			X		X		X		X	⑤	●	④	⑥	
MAN PARALLELING (DROOP)	X		●	③	④	●	①	X		②	●		X		X		X	⑥	●	⑤	⑦	

68D 22916

●→ : SWITCH OPERATION

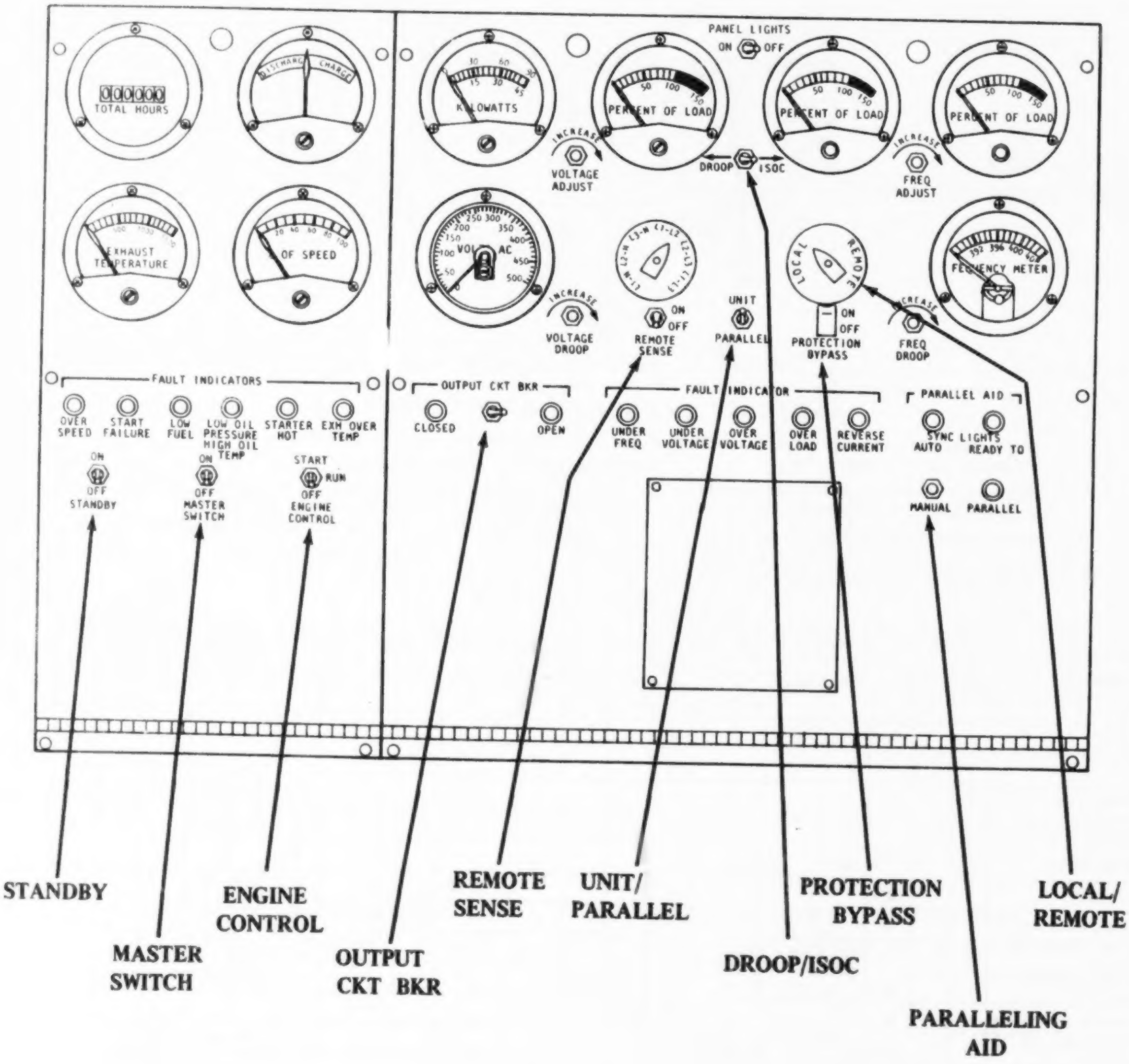
8 = MOMENTARY CONTACT

X = NORMAL POSITION OF SWITCH FOR FUNCTION.

○ = NUMBER IN CIRCLE INDICATES SEQUENCE

2-9. OPERATING PROCEDURES (CONT)

a. Preparation for Operation (Cont)


PANEL LIGHTS
ON
OFF
TOTAL HOURS
DISCHARGE
CHARGE
KILOWATTS
PERCENT OF LOAD
PERCENT OF LOAD
PERCENT OF LOAD
INCREASE
VOLTAGE ADJUST
DROOP
ISOC
INCREASE
FREQ ADJUST
EXHAUST TEMPERATURE
% OF SPEED
VOLTS AC
L1-N L2-N L3-N L1-L2 L2-L3 L3-L1
LOCAL
REMOTE
FREQUENCY METER
INCREASE
VOLTAGE DROOP
ON
OFF
REMOTE SENSE
UNIT
PARALLEL
ON
OFF
PROTECTION BYPASS
INCREASE
FREQ DROOP
FAULT INDICATORS
OVER SPEED
START FAILURE
LOW FUEL
LOW OIL PRESSURE HIGH OIL TEMP
STARTER HOT
EXH OVER TEMP
ON
OFF
STANDBY
ON
OFF
MASTER SWITCH
START
RUN
OFF
ENGINE CONTROL
OUTPUT CKT BKR
CLOSED
OPEN
FAULT INDICATOR
UNDER FREQ
UNDER VOLTAGE
OVER VOLTAGE
OVER LOAD
REVERSE CURRENT
PARALLEL AID
SYNC LIGHTS
AUTO
READY TO
MANUAL
PARALLEL
STANDBY
MASTER SWITCH
ENGINE CONTROL
OUTPUT CKT BKR
REMOTE SENSE
UNIT/ PARALLEL
DROOP/ISOC
PROTECTION BYPASS
PARALLELING AID
LOCAL/ REMOTE

2-9. OPERATING PROCEDURES (CONT)

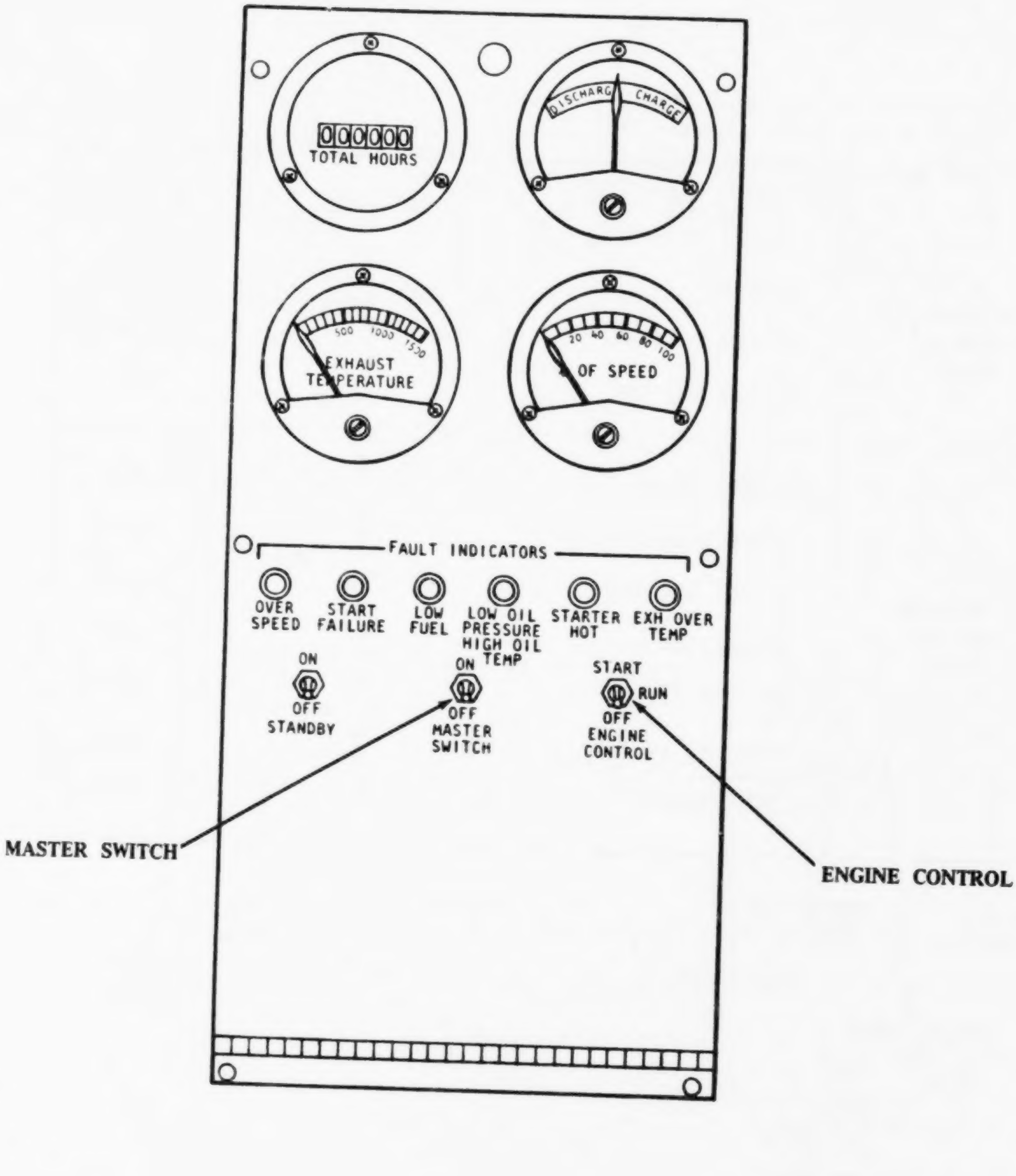
a. Preparation for Operation (Cont)

(25) Place turbine control panel and generator control panel switches in following positions:

	Switch	Direction	Position
TURBINE CONTROL PANEL	STANDBY	↓	OFF
	MASTER SWITCH	↓	OFF
	ENGINE CONTROL	↓	OFF
GENERATOR CONTROL PANEL	REMOTE SENSE	↓	OFF
	PROTECTION BY PASS	↓	OFF
	OUTPUT CKT BKR	→	OPEN
	DROOP/ISOC	→	ISOC
	UNIT/PARALLEL	↑	UNIT
	PARALLELING AID	↑	AUTO
	LOCAL/REMOTE	↖	LOCAL

2-9. OPERATING PROCEDURES (CONT)

b. Operation


000000
TOTAL HOURS
DISCHARGE
CHARGE
500
1000
1500
EXHAUST TEMPERATURE
20
40
60
80
100
% OF SPEED
FAULT INDICATORS
OVER SPEED
START FAILURE
LOW FUEL
LOW OIL PRESSURE HIGH OIL TEMP
STARTER HOT
EXH OVER TEMP
ON
OFF
STANDBY
ON
OFF
MASTER SWITCH
START
RUN
OFF
ENGINE CONTROL

MASTER SWITCH

ENGINE CONTROL

2-9. OPERATING PROCEDURES (CONT)

b. Operation (Cont)

WARNING

Noise level of the generator can cause hearing damage. Ear protectors, as recommended by the medical or safety officer, must be worn when working near this set.

CAUTION

Make sure fuel filter/water separator is installed before electric power unit is started. Failure to observe this caution can cause damage to turbine engine fuel system components.

NOTE

Before operating the Electric Power Unit: (1) Perform Preventive Maintenance Checks and Services listed in TM 5-6115-603-12; (2) Perform Preventive Maintenance Checks and Services listed in table 2-1 of this manual.

(1) Set MASTER SWITCH to ON. Set ENGINE CONTROL switch to RUN.

CAUTION

Monitor EXHAUST TEMPERATURE meter during start cycle. If indication is in red area for more than 5 seconds, set ENGINE CONTROL switch to OFF.

(2) Set ENGINE CONTROL switch to START then release to RUN. Observe TACHOMETER % OF SPEED. The gas turbine engine should start and increase to normal operating speed (100 percent) within 1 minute.

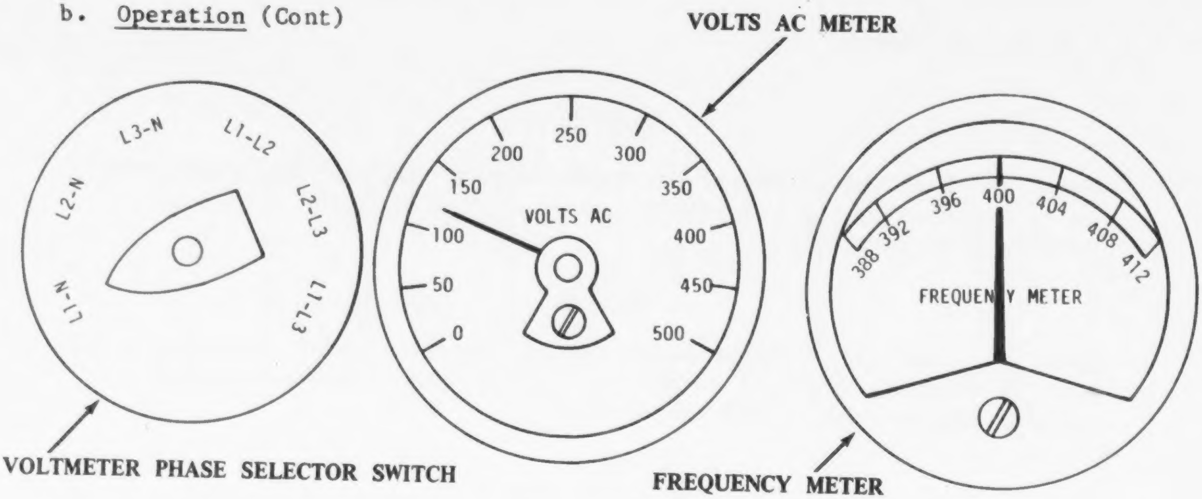
CAUTION

If generator set fails to start a second time, prepare and start the other generator set. Refer to troubleshooting procedures in TM 5-6115-603-12.

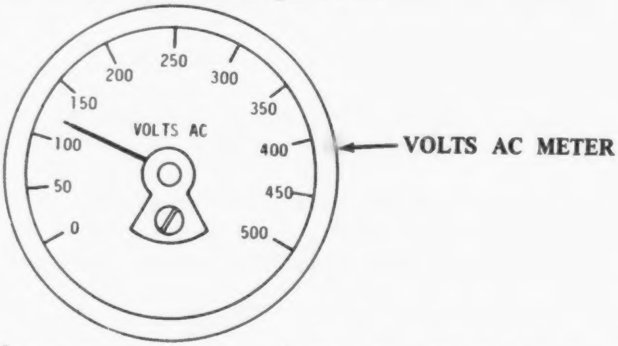
(3) If generator set fails to accelerate when ENGINE CONTROL switch is set to START position the first time, set ENGINE CONTROL switch to OFF position; wait 60 seconds; try once more to start generator set.

2-9. OPERATING PROCEDURES (CONT)

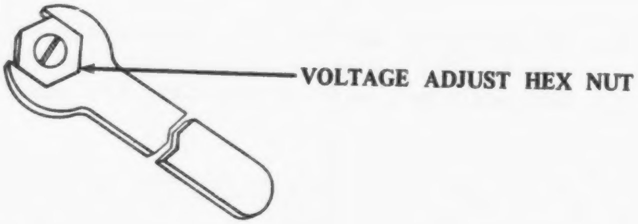
b. Operation (Cont)


VOLTS AC METER
L3-N
L1-L2
L2-N
L2-L3
L1-N
L1-L3
VOLTMETER PHASE SELECTOR SWITCH
0
50
100
150
200
250
300
350
400
450
500
VOLTS AC
388
392
396
400
404
408
412
FREQUENCY METER
FREQUENCY METER

(4) Set voltmeter phase selector switch to L1-N. VOLTS AC meter should indicate 120 volts. FREQUENCY METER should indicate 400 hertz. If VOLTS AC meter does not show the correct indication, refer to steps (5) through (9). IF FREQUENCY METER does not show correct indication, refer to steps (10) through (14).


0
50
100
150
200
250
300
350
400
450
500
VOLTS AC
VOLTS AC METER

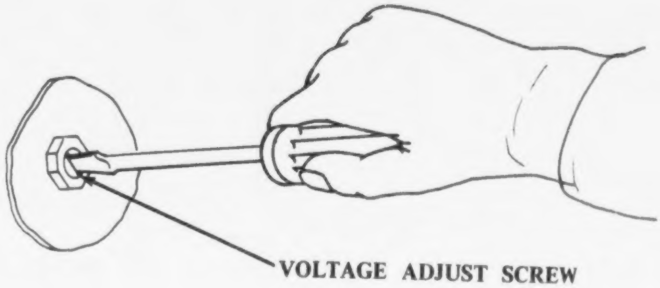
(5) If VOLTS AC meter does not indicate 120 volts, adjust the meter following steps below.


VOLTAGE ADJUST HEX NUT

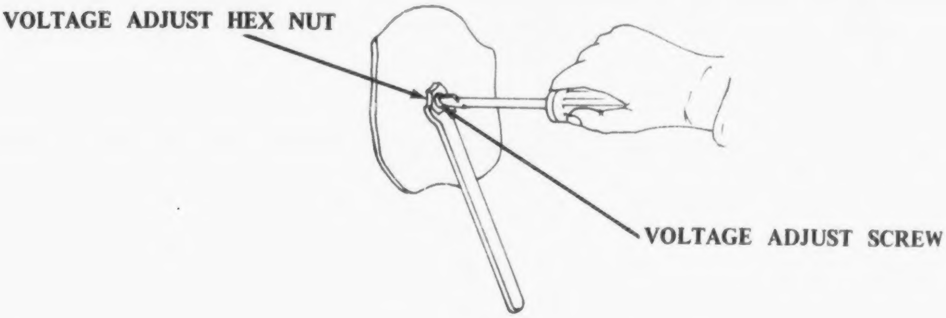
(6) Using a 1/2-inch wrench, loosen VOLTAGE ADJUST hex nut by turning it to left.

2-9. OPERATING PROCEDURES (CONT)

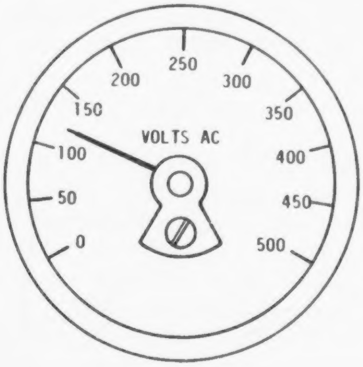
b. Operation (Cont)


VOLTAGE ADJUST SCREW

(7) With a flat-tip screwdriver, turn the VOLTAGE ADJUST screw right or left until the VOLTS AC meter indicates 120 volts.


VOLTAGE ADJUST HEX NUT
VOLTAGE ADJUST SCREW

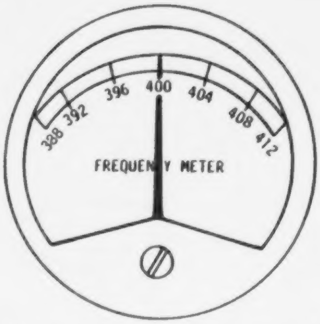
(8) Holding the VOLTAGE ADJUST screw steady, tighten the VOLTAGE ADJUST hex nut by turning it to the right.


VOLTS AC
0
50
100
150
200
250
300
350
400
450
500

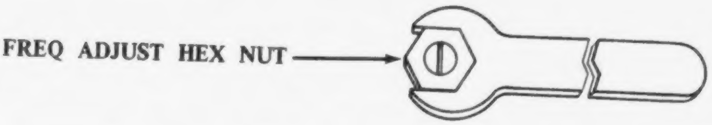
(9) Check to make sure the meter still indicates 120 volts. If it does not indicate 120 volts, repeat this procedure until it does. If meter will not adjust or correct indication cannot be obtained, refer to TM 5-6115-603-12 for troubleshooting procedures.

2-9. OPERATING PROCEDURES (CONT)

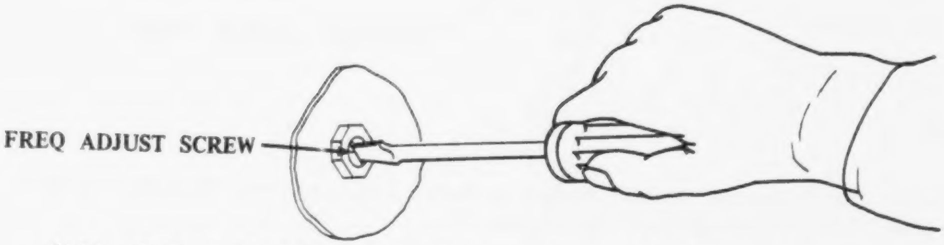
b. Operation (Cont)


388
392
396
400
404
408
412
FREQUENCY METER

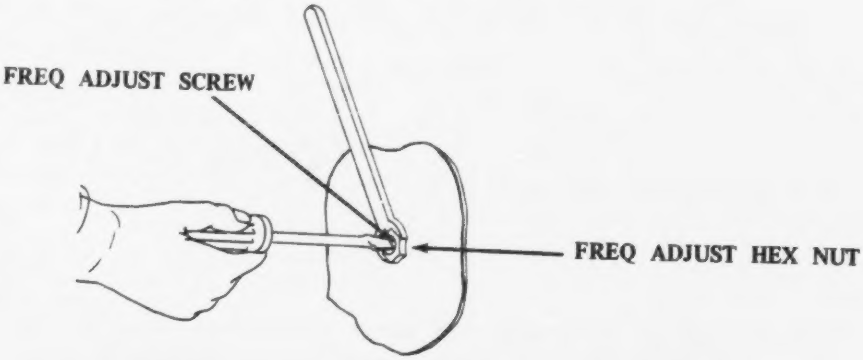
(10) If FREQUENCY METER does not indicate 400 hertz, adjust the meter using the steps below.


FREQ ADJUST HEX NUT

(11) Using a 1/2-inch wrench, loosen the FREQ ADJUST hex nut by turning it to left.


FREQ ADJUST SCREW

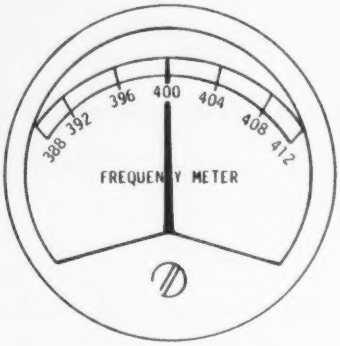
(12) With a flat-tip screwdriver, turn the FREQ ADJUST screw right or left until the FREQUENCY METER indicates 400 hertz.


FREQ ADJUST SCREW
FREQ ADJUST HEX NUT

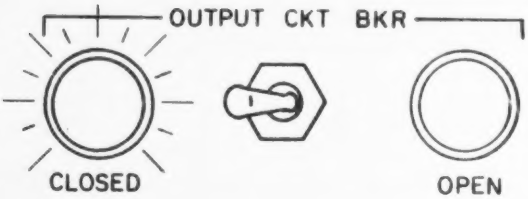
(13) Holding the FREQ ADJUST screw steady, tighten the FREQ ADJUST hex nut by turning it to the right.

2-9. OPERATING PROCEDURES (CONT)

b. Operation (Cont)



(14) Check to make sure the FREQUENCY METER still indicates 400 hertz. If it does not indicate 400 hertz, repeat this procedure until it does. If meter will not adjust or if correct indication cannot be obtained, refer to TM 5-6115-603-12 for troubleshooting procedures.



CAUTION

Check with operators of Information Coordination Central or Communications Relay Group to make sure that they are ready to receive power. Turning power on when Information Coordination Central or Communications Relay Group is not ready may result in overload and damage to equipment.

(15) Set OUTPUT CKT BKR switch to CLOSED position. When OUTPUT CKT BKR is closed, (red) indicator will light. Power is being sent to Information Coordination Central or Communications Relay Group at this time. If lights do not respond correctly (25 and 27, paragraph 2-4), VOLTS AC meter does not read 120 volts, FREQUENCY METER does not read 400 hertz, PERCENT OF LOAD AC ammeter does not indicate load, or KILOWATTS meter does not indicate load, refer to TM 5-6115-603-12 for troubleshooting procedures. If generator is to run without an electrical load applied, leave OUTPUT CKT BKR switch in OPEN position.

2-9. OPERATING PROCEDURES (CONT)

b. Operation (Cont)

NOTE

Fuel consumption under load is approximately 19 gallons an hour per set.

(16) Periodically check fuel supply. If both sight gages indicate 1/4 full or less, refuel.

NOTE

If mission allows, the Electric Power Unit should be shut down during refueling operations.

WARNING

In order to avoid electrical discharge, fuel tanker must be grounded. Make sure fuel tanker ground strap is connected to one of the Electric Power Unit ground terminals.

(17) Attach fuel tanker ground strap to the EPU ground terminal when refueling the primary tank. Use ground terminal shown in paragraph 2-9a, step (7) when refueling secondary tank.

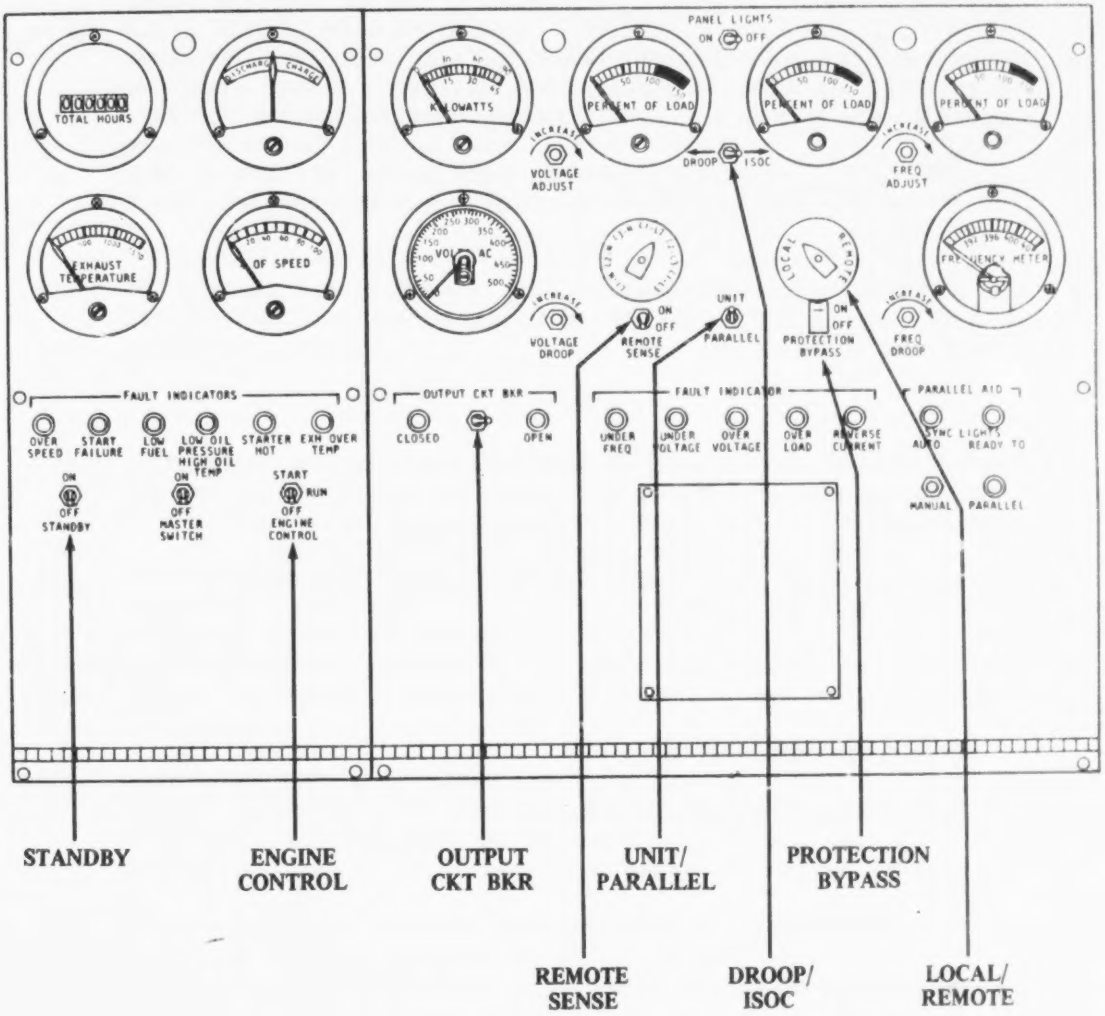
WARNING

If metal-to-metal contact is not maintained during refueling, a spark may result which could ignite fuel fumes. Make sure fuel nozzle stays in contact with fuel tank filler neck.

(18) Refuel fuel tanks.

2-9. OPERATING PROCEDURES (CONT)

c. Parallel Operation


TOTAL HOURS
DISCHARGE
CHARGE
KILOWATTS
PERCENT OF LOAD
PERCENT OF LOAD
PERCENT OF LOAD
PANEL LIGHTS
ON
OFF
INCREASE
VOLTAGE ADJUST
DROOP
ISOC
INCREASE
FREQ ADJUST
EXHAUST TEMPERATURE
% OF SPEED
VOLTS AC
REMOTE
LOCAL
FREQUENCY METER
INCREASE
VOLTAGE DROOP
ON
OFF
REMOTE SENSE
UNIT
PARALLEL
ON
OFF
PROTECTION BYPASS
INCREASE
FREQ DROOP
FAULT INDICATORS
OVER SPEED
START FAILURE
LOW FUEL
LOW OIL PRESSURE HIGH OIL TEMP
STARTER HOT
EXH OVER TEMP
ON
OFF
STANDBY
ON
OFF
MASTER SWITCH
START
RUN
OFF
ENGINE CONTROL
OUTPUT CKT BKR
CLOSED
OPEN
FAULT INDICATOR
UNDER FREQ
UNDER VOLTAGE
OVER VOLTAGE
OVER LOAD
REVERSE CURRENT
PARALLEL AID
SYNC LIGHTS
AUTO
READY TO
MANUAL
PARALLEL
STANDBY
ENGINE CONTROL
OUTPUT CKT BKR
UNIT/ PARALLEL
PROTECTION BYPASS
REMOTE SENSE
DROOP/ ISOC
LOCAL/ REMOTE

2-9. OPERATING PROCEDURES (CONT)

c. Parallel Operation (Cont)

CAUTION

- Initial loads should not exceed single unit rating prior to paralleling; additional loads within the combined ratings may be added after paralleling. If one generator is to be removed from a paralleled group, the load must first be reduced to within the rating of the remaining set or sets to prevent shutdown of the remaining generator set(s) due to overload. Do not parallel if the load is less than 20 percent of the combined load rating of the generator sets.

- When operating in parallel, generator sets must have the same output voltage frequency and phase rotation. Severe damage may occur to the generator sets if these requirements are not met.

- If SYNC LIGHTS blink alternately, check phase rotation. Damage to set will occur if circuit breaker is closed when sets are out-of-phase.

- Do not place paralleling aid switch in manual position with OUTPUT CKT BKR switch in the CLOSED position, or serious damage to the equipment will result.

NOTE

The automatic isochronous mode of parallel operation is generally used when two generator sets on the same power plant are to be operated in parallel. This mode of operation should be used whenever load voltage and frequency tolerance are critical. To operate two generator sets in the isochronous parallel mode of operation, proceed as follows.

(1) Set switches on each generator set as follows. (See illustrations on pages 2-33 and 2-41.)

ENGINE CONTROL SWITCH to OFF.

UNIT PARALLEL switch to PARALLEL.

STANDBY switch to OFF.

LOCAL/REMOTE switch to LOCAL.

DROOP/ISOC switch to ISOC.

PROTECTION BYPASS switch to OFF.

2-9. OPERATING PROCEDURES (CONT)

c. Parallel Operation (Cont)

REMOTE SENSE switch to OPEN.

OUTPUT CKT BKR switch to OPEN.

(2) Start one generator set as described in paragraph 2-9b, steps (1) and (2).

(3) When the TACHOMETER % OF SPEED indicates that the gas turbine engine has reached 100 percent of normal operating speed, set the voltmeter phase selector switch to L1-N, L2-N, or L3-N position, and check that VOLTS AC meter indicates 120. Check that FREQUENCY METER indicates 400.

(4) If VOLTS AC meter does not indicate 120, loosen the locknut on VOLTAGE ADJUST control, and adjust the voltage for an indication of 120 on VOLTS AC meter, then tighten the locknut. (See paragraph 2-9b, steps (5) through (9).)

(5) If FREQUENCY METER does not indicate 400, loosen the locknut on FREQ ADJUST control, and adjust the frequency for an indication of 400 on FREQUENCY METER, then tighten the locknut. (See paragraph 2-9b, steps (10) through (14).)

NOTE

READY TO PARALLEL indicator light should be on. If this indicator light is not on, the output contactor will not close when OUTPUT CKT BKR switch is set to the CLOSED position.

(6) Set OUTPUT CKT BKR switch to CLOSED position, and check that CLOSED indicator light comes on. Check for proper load indication on KILOWATTS meter and PERCENT OF LOAD AC ammeters (for balanced load).

(7) Start the second generator set as described in paragraph 2-9b, steps (1) and (2).

(8) When TACHOMETER % OF SPEED indicates that the gas turbine engine has reached 100 percent of normal operating speed, adjust VOLTS AC meter indication and FREQUENCY METER indication to exactly match the indications on the first generator set.

(9) Observe READY TO PARALLEL indicator light. This light will flash each time voltage, frequency, and phase differences between the two generator sets are matched. Set OUTPUT CKT BKR switch to CLOSED position. The next time voltage, frequency, and phases are matched, the READY TO PARALLEL indicator light will flash and OUTPUT CKT BKR CLOSED indicator light should turn on.

2-9. OPERATING PROCEDURES (CONT)

c. Parallel Operation (Cont)

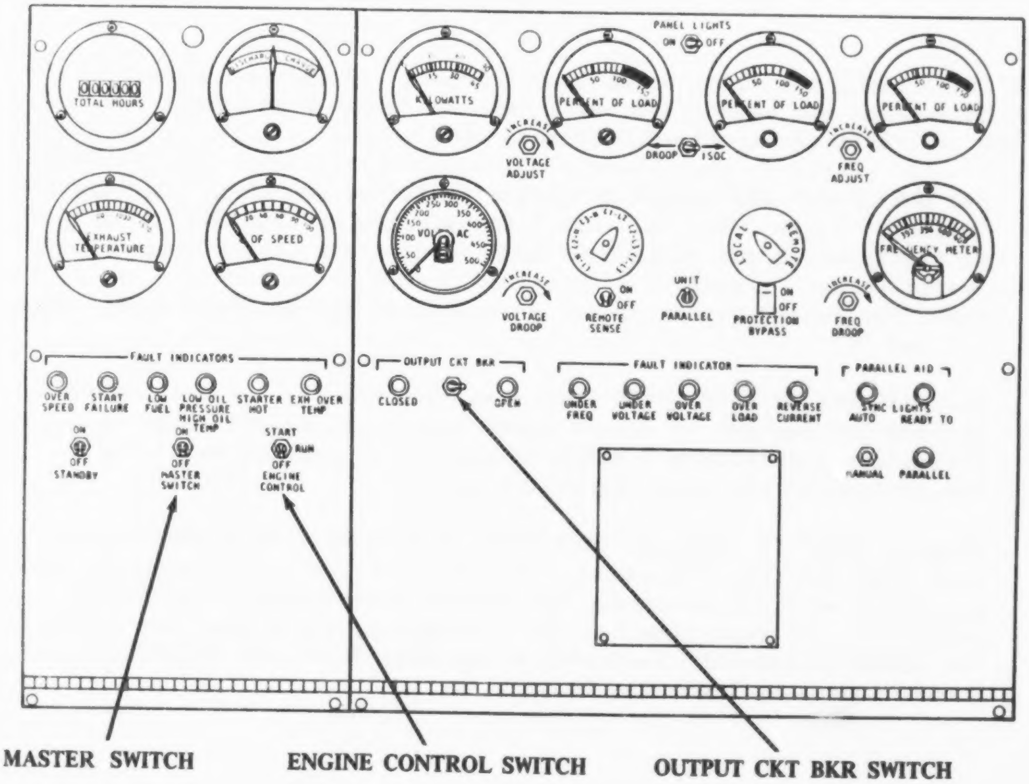
(10) Immediately after units have paralleled, make minor adjustments of VOLTAGE ADJUST control to balance the current meter indication of both sets for equal current sharing; adjust FREQ ADJUST control to balance out kilowatt readings of both sets. Units are now sharing load properly.

CAUTION

- If REVERSE CURRENT indicator light comes on when OUTPUT CKT BKR switch is set to the CLOSED position, set ENGINE CONTROL switch to OFF and refer to next higher level of maintenance.
- If one generator set is to be removed from a parallel group, the load must first be reduced to within the combined ratings of the remaining generator set(s) to prevent shutdown of the remaining generator set(s) due to overload.

(11) To shut down either generator set, refer to paragraph 2-9d.

d. Stopping Procedure


TOTAL HOURS
EXHAUST TEMPERATURE
OF SPEED
KILOWATTS
PERCENT OF LOAD
PERCENT OF LOAD
PERCENT OF LOAD
PANEL LIGHTS
ON
OFF
VOLTAGE ADJUST
DROOP
ISOC
FREQ ADJUST
VOLTS AC
FREQUENCY METER
VOLTAGE DROOP
REMOTE SENSE
UNIT PARALLEL
LOCAL
REMOTE
PROTECTION BYPASS
FREQ DROOP
FAULT INDICATORS
OVER SPEED
START FAILURE
LOW FUEL
LOW OIL PRESSURE HIGH OIL TEMP
STARTER HOT
EXH OVER TEMP
STANDBY
MASTER SWITCH
START
RUN
ENGINE CONTROL
OUTPUT CKT BKR
CLOSED
OPEN
FAULT INDICATOR
UNDER FREQ
UNDER VOLTAGE
OVER VOLTAGE
OVER LOAD
REVERSE CURRENT
PARALLEL AID
SYNC LIGHTS
AUTO
READY TO
MANUAL
PARALLEL
MASTER SWITCH
ENGINE CONTROL SWITCH
OUTPUT CKT BKR SWITCH

2-9. OPERATING PROCEDURES (CONT)

d. Stopping Procedure (Cont)

CAUTION

To turn generator set off, steps (1) through (3) below must be followed in order. If MASTER SWITCH is turned OFF first, OUTPUT CKT BKR switch will remain closed. This will cause overload on output terminals; this condition may damage generator.

(1) Set OUTPUT CKT BKR switch to OPEN. (The generator set is now off-line.)

(2) Set ENGINE CONTROL switch to OFF.

(3) Set MASTER SWITCH to OFF.

2-10. PREPARATION FOR MOVEMENT

a. Shutdown for Movement

(1) Follow stopping procedure in paragraph 2-9d, steps (1) through (3); follow CAUTION before step (1).

(2) Replace BATTERY DRAIN fitting cap by turning to right; tighten using 11/16-inch open-end wrench.

(3) Replace MUFFLER DRAIN cap by turning to right; tighten using 11/16-inch open-end wrench.

(4) Replace OIL DRAIN and reduction drive vent cap by turning to right; tighten using 7/8-inch open-end wrench.

(5) Grasp generator control panel door; pull down from top of generator set. Using flat-tip screwdriver, turn 1/4-turn fasteners to right to secure door to generator set.

NOTE

- Repeat steps (2) through (5) for second generator set.
- If ICC/CRG is not used, remove jumper wire from pins Q and R of J6 connector on PDU and jumper wire from pins B and D from J1 connector on PDU.

(6) Disconnect W5 cable and W1 power cable from Power Distribution Unit and Information Coordination Central or Communications Relay Group.

(7) Replace dust caps on W5 cable and W1 power cable and J1 and J6 connectors.

2-10. PREPARATION FOR MOVEMENT (CONT)

a. Shutdown for Movement (Cont)

WARNING

W1 power cable weighs approximately 180 pounds (81.6 kg). Do not attempt to carry it by yourself; get help.

(8) Secure W5 cable and W1 power cable in storage compartment.

(9) Disconnect ground wire assembly from left side of trailer and ground rod. Remove ground rods from ground; secure them in bracket on side of pallet. Secure ground wire to strap assembly on grating walkway.

b. Setup at New Location. Upon arrival at new location, follow steps (1) through (25) listed in paragraph 2-9a.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

For operating procedures during unusual conditions, refer to TM 5-6115-603-12.

CHAPTER 3

OPERATOR MAINTENANCE

	Para		Para
General	3-1	Section III. MAINTENANCE PROCEDURES	
Section I. LUBRICATION INSTRUCTIONS		Fuel Filter/Water Separator - Maintenance Instructions ...	3-4
Section II. TROUBLESHOOTING PROCEDURES			

3-1. **GENERAL.** The maintenance duties assigned to the operator of the Electric Power Unit (EPU), AN/MJQ-21, are listed below. References to TM 5-6115-603-12 for maintenance requirements of the MEP404B generator sets and to TM 9-2330-247-14 for the M353 (modified) trailer are provided.

Section I. LUBRICATION INSTRUCTIONS

3-2. Lubrication of the Electric Power Unit (EPU) is limited to the MEP404B generator set and the M353 (modified) trailer. For specific procedures on the MEP404B generator sets, refer to TM 5-6115-603-12, chapter 3. For the M353 (modified) trailer, refer to TM 9-2330-247-14, chapter 3.

Section II. TROUBLESHOOTING PROCEDURES

3-3. There are no required operator troubleshooting procedures on the MEP404B generator sets or Electric Power Unit components. If a malfunction occurs, first check to see that you have performed all of the operating procedures listed in paragraph 2-9, then call organizational maintenance.

Section III. MAINTENANCE PROCEDURES

NOTE

Specific operator maintenance procedures for the MEP404B generator set are contained in chapter 3 of TM 5-6115-603-12. There is no required operator maintenance on the M353 (modified) trailer.

3-4. FUEL FILTER/WATER SEPARATOR – MAINTENANCE INSTRUCTIONS

This task covers:
Service

INITIAL SETUP

Materials/Parts

Suitable container for receiving contaminated fuel

Personnel Required

One EPU operator

Equipment Condition Para	Condition Description
2-9d	Generator engine must be shut down 30 minutes BEFORE draining.

General Safety Instructions

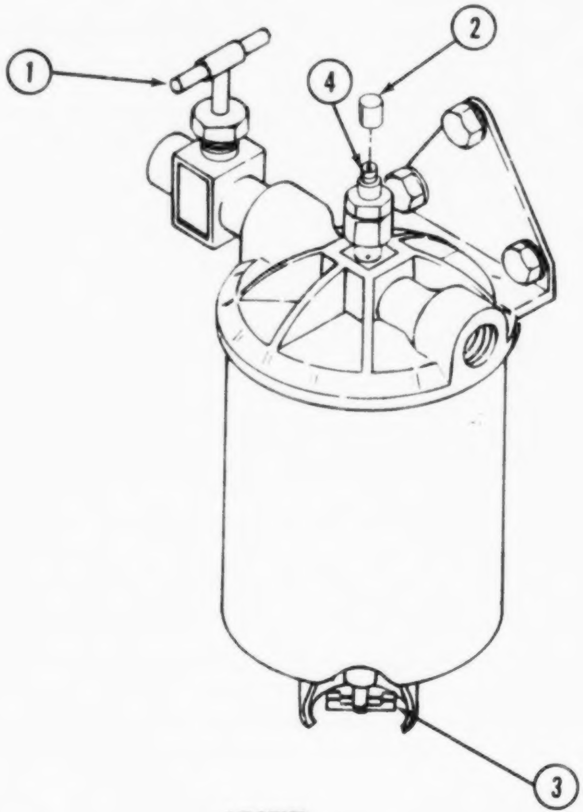
WARNING

No smoking or open flame within 50 feet (15.3 meters) of the fuel filter/water separator during draining. Do not allow fuel to drain onto ground. This will create a fire hazard.

LOCATION	ITEM	ACTION	REMARKS
SERVICE			
1. Front end plate	Fuel shutoff valve (1)	Close.	Located on left side of fuel filter/water separator.
2. Fuel filter/ water separator	a. Vent valve cap (2)	Remove.	
	b. Petcock (3)	Open.	Place suitable container under petcock before opening.

3-4. FUEL FILTER/WATER SEPARATOR – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	c. Vent valve (4)	Press down; drain until fuel appears; then release.	
	d. Petcock (3)	Close.	
	e. Vent valve cap (2)	Replace.	
	f. Fuel shutoff valve (1)	Open.	



LEGEND

1 FUEL SHUTOFF VALVE
2 VENT VALVE CAP
3 PETCOCK
4 VENT VALVE

CHAPTER 4

ORGANIZATIONAL MAINTENANCE

Para

General 4-1

Section I. REPAIR PARTS, SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT
Common Tools and Equipment 4-2
Special Tools, TMDE, and Support Equipment 4-3
Repair Parts 4-4

Section II. SERVICE UPON RECEIPT
General 4-5

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)
General 4-6

Section IV. TROUBLESHOOTING
General 4-7

Section V. MAINTENANCE PROCEDURES
General 4-8
MEP404B Generator Set - Maintenance Instructions 4-9
W6 Cable - Maintenance Instructions 4-10
W2 Cable - Maintenance Instructions 4-11
W4 Cable - Maintenance Instructions 4-12
W3 Cable - Maintenance Instructions 4-13
Auto Start and Compensation Cable Assembly - Maintenance Instructions 4-14
W1 Power Cable - Maintenance Instructions 4-15
W5 Cable - Maintenance Instructions 4-16
Pallet Assembly - Maintenance Instructions 4-17
Fuel Tank Vent - Maintenance Instructions 4-18
Fuel-Level Sensors - Maintenance Instructions 4-19
Fuel Filter/Water Separator - Maintenance Instructions 4-20
Fuel Shutoff Valves - Maintenance Instructions 4-21
Fuel Tank Assembly Components - Maintenance Instructions 4-22
Solenoid Valve Assembly - Maintenance Instructions 4-23
Fuel Check Valve Assembly - Maintenance Instructions 4-24
Internal Fuel Lines and Fittings - Maintenance Instructions 4-25
Trailer Assembly - Maintenance Instructions 4-26

4-1. GENERAL. The maintenance duties assigned to the organizational repairman of Electric Power Unit (EPU), AN/MJQ-21, are listed below with references to TM 5-6115-603-12 for maintenance requirements of the MEP404B generator sets, and to TM 9-2330-247-14 for the M353 (modified) 3½-ton trailer.

Section I. REPAIR PARTS; SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

4-2. COMMON TOOLS AND EQUIPMENT. For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

4-3. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT. Refer to the Maintenance Allocation Chart (MAC), appendix B, and to the Repair Parts and Special Tools List (RPSTL), appendix C.

4-4. REPAIR PARTS. Repair parts are listed and illustrated in the RPSTL, appendix C.

Section II. SERVICE UPON RECEIPT

4-5. GENERAL. The EPU will be received fully assembled. Acceptance services will be accomplished by performing monthly PMCS listed in section III of this chapter. Refer to TM 5-6115-603-12 for instructions on the MEP404B generator set and to TM 9-2330-247-14 for the M353 (modified) 3½-ton trailer.

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

4-6. GENERAL. To ensure that the EPU is always ready for operation, it must be inspected systematically so that defects may be discovered and corrected before they result in damage or failure. The PMCS listed in this section is for the Power Distribution Unit, pallet, pallet fuel system, external power cables, and frame assembly that holds the pallet to the trailer chassis. PMCS for the generator set is contained in TM 5-6115-603-12, and must be performed first. PMCS for the M353 (modified) 3½-ton trailer is contained in TM 9-2330-247-14 and will be performed after completing the procedures listed in this section. The PMCS listed in this section are based on the following times:

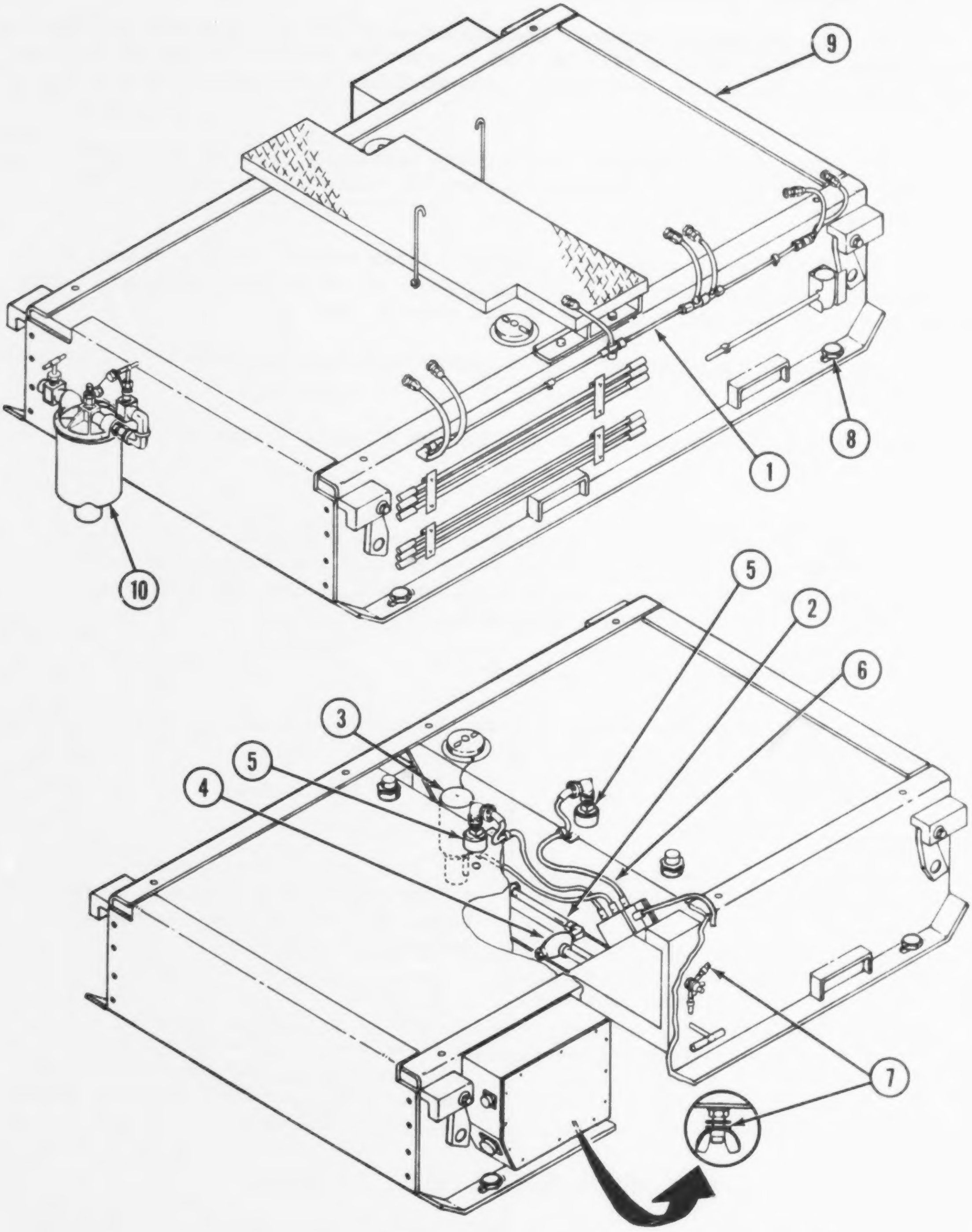
a. Weekly (W) PMCS shall be performed once each week.

b. Monthly (M) PMCS shall be performed once a month or upon receipt of equipment.

c. Semiannual (S) PMCS shall be performed once every 6 months.

d. Hours (H) PMCS shall be performed at the prescribed time identified in the "Interval" column of table 4-1. The time shown is based on total EPU operating time.

e. If your equipment fails to operate, troubleshoot with proper equipment. Report any deficiencies that you cannot correct to direct support maintenance by using the proper forms listed in DA Pam 738-750.



f. Table 4-1 consists of four columns containing the following:

(1) "Item Number" column. Checks and services are numbered in order of performance. These numbers will be used in the "TM Number" column on DA Form 2404 (Equipment Inspection and Maintenance Worksheet) to record results of PMCS.

(2) "Interval" columns. The columns headed "W" and "M" contain dots (•) under the proper check periods. Column "H" contains the specific hour indications.

(3) "Item To Be Inspected" column. Items listed in this column are divided into groups by the portion of equipment of which they are part. Item to be inspected will be identified by its common name.

(4) "Procedures" column. This column contains all information required to accomplish checks and services.

Table 4-1. Organizational Preventive Maintenance Checks and Services

NOTE

If the equipment must be kept in continuous operation, check and service only those items that can be checked and serviced without disturbing operation. Perform the complete checks and services when the equipment can be shut down.

W - Weekly M - Monthly H - Hours

Item No.	Interval			Item to Be Inspected	Procedures
	W	M	H		
1	•			External fuel lines, drain lines, fuel filter, fuel-level gages, and fittings	Check fuel lines, drain lines, fuel filter, fuel-level gages, and fuel vent tubes for damage, fuel leakage, and loose fittings.
2	•			Pallet assembly fuel lines and fittings	Remove walkway in accordance with paragraph 4-18, and check fuel lines and fittings for fuel leakage, damage, and loose fittings.

Table 4-1. Organizational Preventive Maintenance Checks and Services (Cont)

W - Weekly M - Monthly H - Hours

Item No.	Interval			Item to Be Inspected	Procedures
	W	M	H		
					NOTE Leave walkway off until the completion of step 7, this table.
3	●			Solenoid valve assembly	Check for fuel leakage, damage, and loose fittings.
4	●			Fuel valve gate	Check for fuel leakage, damage, and loose fittings.
5	●			Fuel-level sensors	Check for fuel leakage, damage, and loose fittings.
6		●		Fuel distribution unit wiring	Check wiring harnesses for chafing and damaged insulation. Check all connectors and terminals for damage and loose connections.
7		●		Ground wires	Check for broken or damaged wire and loose connections at the pallet ground terminal and at the PDU ground terminal.
8		●		Pallet mounting bolts	Check for loose mounting bolts. Tighten pallet bolts using paragraph 4-17.
9		●		Pallet assembly	Check for fuel leaks, cracks or damage, and damaged lifting eyes.
10			600	Fuel filter/ water separator element	Change filter element in accordance with paragraph 4-20.

Section IV. TROUBLESHOOTING

4-7. GENERAL. Troubleshooting involves the identification of problems that you have with the equipment and what you must do to solve them. This section contains only the troubleshooting symptoms (malfunctions), tests or inspections to be performed, and corrective actions pertaining to the EPU fuel system located in the pallet. Specific troubleshooting procedures related to the MEP404B generator set are found in chapter 4 of TM 5-6115-603-12 and must be performed first. The procedures listed in table 4-2 are presented in step-by-step detail. Make sure you read and understand each procedure before you begin.

If a malfunction occurs that is not listed or cannot be corrected by the information contained in this manual, notify your supervisor for further guidance.

SYMPTOM INDEX

	Troubleshooting Procedure
Generator Set Shuts Down, Generator Low Fuel Indicator Light Comes On	1
Generator Sets Will Not Parallel	4
Low Fuel Light In ICC or CRG Stays On After Refueling	3
No Power To ICC or CRG With Generator Set Running	2

Table 4-2. Troubleshooting

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

---

1. GENERATOR SET SHUTS DOWN, GENERATOR LOW FUEL INDICATOR LIGHT COMES ON.

Step 1. Open load output circuit breaker. Set MASTER SWITCH and ENGINE CONTROL switch to OFF position.

Step 2. Check the fuel-level gages on the primary and secondary fuel tanks.

If both fuel tanks are empty, fill tanks.

If primary and secondary fuel tanks have fuel, proceed to step 3.

If primary fuel tank is empty and secondary fuel tank is full, proceed to step 6.

Table 4-2. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

Step 3. Set MASTER SWITCH to ON. Set ENGINE CONTROL switch to RUN. Listen for fuel boost pump operating. Set ENGINE CONTROL switch and MASTER SWITCH to OFF.

If fuel boost pump operates, proceed to step 4.

If fuel boost pump does not operate, troubleshoot generator set in accordance with TM 5-6115-603-12.

Step 4. Refer to paragraph 4-18, and remove walkway.

Step 5. Check fuel lines and fittings for damaged and/or loose connections.

If damaged fuel lines and/or fittings are found, replace in accordance with paragraph 4-25. Tighten any loose connections.

If fuel lines and fittings are not damaged or loose, proceed to step 6.

Step 6. Disconnect connector P2 from primary tank fuel-level sensor. Remove and test primary tank fuel-level sensor in accordance with paragraph 4-19.

If correct indication is obtained, proceed to step 7.

If correct indication is not obtained, replace primary tank fuel-level sensor using paragraph 4-19.

Step 7. Disconnect connector P7 from fuel distribution unit, and perform continuity test and resistance test on W2 cable in accordance with paragraph 4-11.

If correct indication is obtained, connect connector P2 to connector J2 and proceed to step 8.

If correct indication is not obtained, replace W2 cable in accordance with paragraph 4-11.

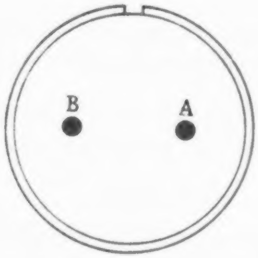
Table 4-2. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

WARNING

Hazardous electrical voltages exist within system. Do not touch exposed metal portions of test leads or connector pins while performing tests. Electric shock or burns may result.

Step 8. Disconnect connector P3 from solenoid valve assembly. Set multimeter to 50 vdc range, and connect red lead (positive) to pin A and black lead (negative) to pin B on connector P3. Set MASTER SWITCH to ON position. Multimeter should indicate 22 vdc or more. Set MASTER SWITCH to OFF position.



P3

If correct indication is obtained, proceed to step 9.

If correct indication is not obtained, proceed to step 10.

Step 9. Connect connector P2 to removed fuel-level sensor. Set MASTER SWITCH to ON position. Raise and lower bottom float of sensor. Solenoid valve assembly should make a clicking sound. Set MASTER SWITCH to OFF position.

If clicking sound is heard, install fuel-level sensor and proceed to step 10.

If clicking sound is not heard, test solenoid valve assembly using paragraph 4-23.

Step 10. Disconnect connector P8 from fuel distribution unit. Perform continuity test and resistance test on W3 cable in accordance with paragraph 4-13.

Table 4-2. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

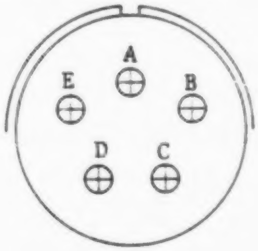
If correct indications are obtained, connect connector P3 to solenoid valve assembly and connector P8 to fuel distribution unit, and proceed to step 11.

If correct indications are not obtained, replace W3 cable in accordance with paragraph 4-13.

WARNING

Hazardous electrical voltages exist within system. Do not touch exposed metal portions of test leads or connector pins while performing tests. Electric shock or burns may result.

Step 11. Disconnect connector P10 from fuel distribution unit. Set multimeter to 50 vdc range, and connect red lead (positive) to pin A and black lead (negative) to pin B on connector P10. Set MASTER SWITCH to ON position. Multimeter should indicate 22 vdc or more. Set MASTER SWITCH to OFF position.



P10

If correct indication is obtained, refer to next higher level of maintenance.

If correct indication is not obtained, proceed to step 12.

Step 12. Disconnect connector P11 from the PDU. Perform continuity test and resistance test on W6 cable in accordance with paragraph 4-10.

If correct indications are obtained, proceed to step 13.

If correct indications are not obtained, replace W6 cable in accordance with paragraph 4-10.

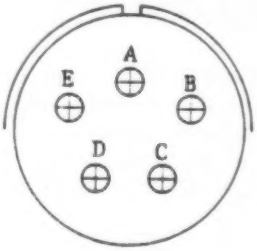
Table 4-2. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

WARNING

Hazardous electrical voltages exist within system. Do not touch exposed metal portions of test leads or connector pins while performing tests. Electric shock or burns may result.

Step 13. Set multimeter at 50 vdc range, and connect red lead (positive) to pin A and black lead (negative) to pin B on connector J11. Set MASTER SWITCH to ON position. Multimeter should indicate 22 vdc or more. Set MASTER SWITCH to OFF position.



J11

If correct indication is obtained, notify direct support maintenance.

If correct indication is not obtained, reconnect connector P11 to PDU and P10 to fuel distribution unit, and proceed to step 14.

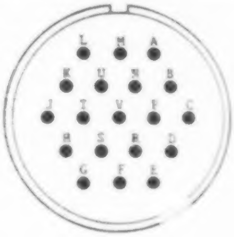
WARNING

Hazardous electrical voltages exist within system. Do not touch exposed metal portions of test leads or connector pins while performing tests. Electric shock or burns may result.

Step 14. Disconnect connector P12 from generator set. Set multimeter to 50 vdc range, and connect red lead (positive) to pin J and black lead (negative) to pin K on connector J12. Set MASTER SWITCH to ON position. Multimeter should indicate 22 vdc or more. Set MASTER SWITCH to OFF position.

Table 4-2. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION



J12

If correct indication is obtained, refer to next higher level of maintenance.

If correct indication is not obtained, troubleshoot generator set using TM 5-6115-603-12.

2. NO POWER TO ICC OR CRG WITH GENERATOR SET RUNNING.

Step 1. With generator set running and OUTPUT CKT BKR switch in closed position, observe OUTPUT CKT BKR indicator lights on the generator set control panel, and verify malfunction.

If OUTPUT CKT BKR OPEN (green) light is lit, shut down generator set in accordance with paragraph 2-9d and proceed to step 2.

If OUTPUT CKT BKR CLOSED (red) light is lit, shut down the generator set in accordance with paragraph 2-9d and proceed to step 4.

Step 2. Verify cable connections.

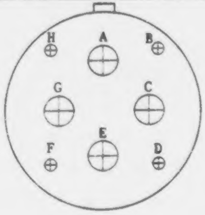
WARNING

Hazardous electrical voltages exist within system. Do not touch exposed metal portions of test leads or connector pins while performing tests. Electric shock or burns may result.

Step 3. Disconnect connector P1 from PDU. Set multimeter to 50 vdc range, and connect red lead (positive) to pin B and black lead (negative) to pin D on connector J1. Set MASTER SWITCH to ON position. Multimeter should indicate 22 vdc or more. Set MASTER SWITCH to OFF position.

Table 4-2. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION



J1

If correct indication is obtained, proceed to step 4.

If correct indication is not obtained, proceed to step 5.

Step 4. Disconnect connector P2 from ICC or CRG. Using paragraph 4-15, perform continuity test on W1 power cable.

If correct indications are obtained, reconnect P2 to ICC or CRG, and connect P1 to PDU. Refer to next higher level of maintenance.

If correct indications are not obtained, replace W1 power cable in accordance with paragraph 4-15.

WARNING

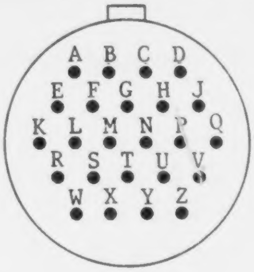
Hazardous electrical voltages exist within system. Do not touch exposed metal portions of test leads or connector pins while performing tests. Electric shock or burns may result.

Step 5. Disconnect connector P6 from PDU. Set multimeter to 50 vdc range, and connect red lead (positive) to pin S and black lead (negative) to pin L on connector J6. Set MASTER SWITCH to ON position. Multimeter should indicate 22 vdc or more. Set MASTER SWITCH to OFF position.

best copy available

Table 4-2. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION



J6

If correct indication is obtained, proceed to step 6.

If correct indication is not obtained, proceed to step 7.

Step 6. Disconnect connector P5 from ICC or CRG. Using paragraph 4-16, perform continuity test on W5 cable.

If correct indications are obtained, notify ICC or CRG operator.

If correct indications are not obtained, replace W5 cable in accordance with paragraph 4-16.

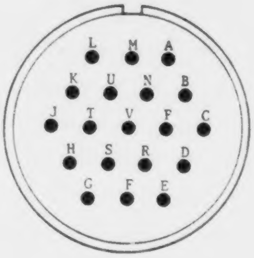
WARNING

Hazardous electrical voltages exist within system. Do not touch exposed metal portions of test leads or connector pins while performing tests. Electric shock or burns may result.

Step 7. Disconnect connector P12 from generator set. Set multimeter to 50 vdc range, and connect red lead (positive) to pin J and black lead (negative) to pin K on connector J12. Set MASTER SWITCH to ON position. Multimeter should indicate 22 vdc or more. Set MASTER SWITCH to OFF position.

Table 4-2. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION



J12

If correct indication is obtained, refer to next higher level of maintenance.

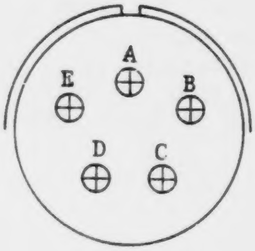
If correct indication is not obtained, troubleshoot generator set using TM 5-6115-603-12.

3. LOW FUEL LIGHT IN ICC OR CRG STAYS ON AFTER REFUELING.

Step 1. Verify the malfunction.

Step 2. Shut down generator set(s) in accordance with paragraph 2-9d.

Step 3. Disconnect connector P11 from power distribution unit. Set multimeter to RX10,000 scale. Touch one lead to P11 pin A and one lead to P11 pin C. Multimeter should indicate infinity.



P11

If correct indication is obtained, proceed to step 8.

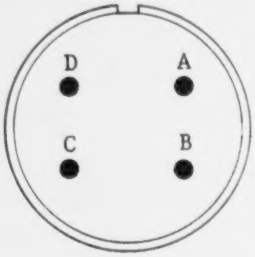
If correct indication is not obtained, proceed to step 4.

Table 4-2. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

Step 4. Refer to paragraph 4-18 and remove walkway.

Step 5. Disconnect connector P4 from secondary tank fuel-level sensor. Set multimeter to RX10,000 scale, and connect red lead (positive) to pin A and black lead (negative) to pin C. Multimeter should indicate infinity.

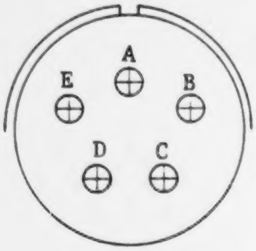


P4

If correct indication is obtained, proceed to step 6.

If correct indication is not obtained, using paragraph 4-19, replace secondary tank fuel-level sensor.

Step 6. Disconnect connector P9 from fuel distribution unit. Set multimeter to RX10,000 scale, touch one lead to pin A, and touch the other lead to pin C. Multimeter should indicate infinity.



P9

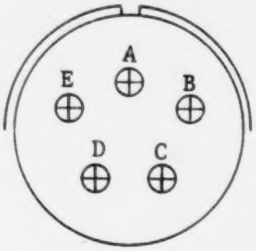
If correct indication is obtained, reconnect connector P9 to fuel distribution unit and connector P4 to secondary tank fuel-level sensor. Proceed to step 7.

Table 4-2. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

If correct indication is not obtained, replace W4 cable in accordance with paragraph 4-12.

Step 7. Disconnect connector P10 from fuel distribution unit and connector P11 from PDU. Set multimeter to RX10,000 scale, touch one lead to pin A, and touch the other lead to pin C. Multimeter should indicate infinity.

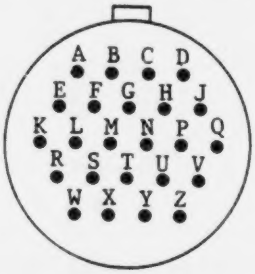


P10

If correct indication is obtained, reconnect connector P10 to fuel distribution unit and connector P11 to PDU. Refer to next higher level of maintenance.

If correct indication is not obtained, replace W6 cable in accordance with paragraph 4-10.

Step 8. Disconnect connector P6 from PDU and connector P5 from ICC or CRG. Set multimeter to RX10,000 scale, touch one lead to pin L and the other lead to each of the other pins in turn. Multimeter should indicate infinity for each set of pins.



P6/P5

Table 4-2. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

If correct indications are obtained, reconnect connector P6 to PDU and connector P5 to ICC or CRG. Notify next higher level of maintenance.

If correct indications are not obtained, replace W5 cable.

4. GENERATOR SETS WILL NOT PARALLEL.

Step 1. Verify the malfunction.

Step 2. Shut down generator sets in accordance with paragraph 2-9d.

Step 3. Disconnect auto start and compensation cable assembly from connectors J7 on generator sets. Set multimeter to RX1 scale, and test in accordance with paragraph 4-14.

If correct indications are obtained, troubleshoot generator sets using TM 5-6115-603-12.

If correct indications are not obtained, replace auto start and compensation cable assembly.

Section V. MAINTENANCE PROCEDURES

4-8. **GENERAL.** This section contains maintenance instructions authorized by the MAC in appendix B to support the EPU at the organizational maintenance level. For specific maintenance instructions on the generator set, refer to TM 5-6115-603-12 and for the M353 (modified) 3½-ton trailer, refer to TM 9-2330-247-14.

4-9. MEP404B GENERATOR SET – MAINTENANCE INSTRUCTIONS

This task covers:
a. Remove
b. Replace

INITIAL SETUP

Tools and Special Tools

- M816 5-ton wrecker truck 2320-00-051-0489
- Four wire rope sling assemblies, 4010-01-083-2453
- General mechanic's tool kit: automotive, 5180-00-177-7033
  - 5/8-inch open-end wrench
  - 11/16-inch open-end wrench
  - 1/4-inch flat-tip screwdriver
  - 3/4-inch combination box- and open-end wrench

Materials/Parts

- Suitable container to hold 7 quarts of fuel
- Two 12-foot lengths of 1/4-inch rope, item 10, appendix D
- Rags, item 11, appendix D

Personnel Required

- Two turbine engine driven generator repairers, MOS 52F
- One EPU operator
- One wrecker truck operator, MOS 63B

References

- Generator dismantling for movement, TM 5-6115-603-12
- Generator Installation, TM 5-6115-603-12

Equipment Condition Para	Condition Description
2-10	Generators shut down for march conditions.

General Safety Instructions

WARNING

- Do not smoke or permit open flames within 50 feet (15.3 meters) of the generator set during fuel handling operations. Do not allow fuel to drain onto the ground. This will create a fire hazard.
- Do not get under the generator set while it is in the air. Bodily injury may occur.

CAUTION

When lowering the generator onto the pallet or lifting it from the pallet, take care that it does not swing into the other generator set or other equipment.

4-9. MEP404B GENERATOR SET – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Generator set	a. Ground wire (1)	Disconnect ground wire lead from GROUND terminal on output connector panel.	
	b. Auto start and compensation cable assembly (2)	Remove cable assembly from output connector J7 on output connector panel.	
	c. W9 (3) or W10 (4) power cable	Remove connector P30-1 or P30-2 from 400HZ OUTPUT connector J30 on output connector panel.	
	d. W7 (5) or W8 (6) signal cable	Remove connector P12-1 or P12-2 from REMOTE CONTROL connector J12 on output connector panel.	

WARNING

Do not smoke or permit open flames within 50 feet (15.3 meters) of the generator set during fuel handling operations. Do not allow fuel to drain onto the ground. This will create a fire hazard.

LOCATION	ITEM	ACTION	REMARKS
2. Fuel filter/ water separator	Fuel shutoff valve (outlet) (7)	Close fuel shutoff valve by turning it to right.	

NOTE

Prior to disconnecting fuel inlet, place suitable container under line to catch fuel.

LOCATION	ITEM	ACTION	REMARKS
3. Generator set	a. Fuel inlet line (8)	Remove. Using 5/8-inch open-end wrench, turn to left and remove line. Install dust cap.	

4–9. MEP404B GENERATOR SET – MAINTENANCE INSTRUCTIONS (CONT)

NOTE

Place external drain line into a suitable container before opening fuel drain valve.

LOCATION	ITEM	ACTION	REMARKS
	b. Fuel drain valve (9)	Open valve by turning to left. Once fuel is drained, close valve by turning to right.	
	c. FUEL FILTER DRAIN line (10)	Remove. Using 11/16-inch open-end wrench, turn to left and remove. Install dust cap.	
	d. COMBUSTOR DRAIN line (11)	Remove. Using 11/16-inch open-end wrench, turn to left and remove. Install dust cap.	
	e. FUEL DRAIN fitting (12)	Remove. Using 11/16-inch open-end wrench, turn to left and remove. Install dust cap.	
	f. OIL DRAIN fitting and reduction drive vent cap (13)	Replace.	
	g. Control panel cover assembly (14)	Close. Using a flat-tip screwdriver, secure quarter-turn fasteners.	
4. Generator sets	a. Wrecker truck	Move the wrecker truck near generator set (15) so that hoisting hook is centered over set. Lower hoisting hook to about 1 foot (0.3 meter) above generator set.	

4-9. MEP404B GENERATOR SET – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	b. Wire rope sling assemblies (16)	Connect. Place wire rope sling assemblies on hoisting hook. Connect the two legs to one end of generator set. Repeat this step for the other three sling assemblies.	Generator lifting eyes are seated in top cover of generator.
	c. Guy lines (17)	Attach two lines, one to front lifting eye and the other to rear lifting eye on opposite side.	
5. Left and right sides of generator set	Four capscrews (18), and four lockwashers (19)	Remove. Use 3/4-inch combination box- and open-end wrench.	

WARNING

Do not get under the generator set while it is in the air. Bodily injury may occur.

CAUTION

When lifting the generator set from the pallet, take care that it does not swing into the other generator set or other equipment.

6. Pallet	Generator set (15)	Remove. With one person guiding wrecker operator and two people holding guy lines, lift generator set from pallet. Move it to a predetermined location, and set it down. Disconnect wire rope sling assemblies and guy lines from generator set.	

4-9. MEP404B GENERATOR SET – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
REPLACE			
7. Generator set	a. Generator set (15)	Perform steps 4a through 4c of this paragraph.	

WARNING

Do not get under the generator set while it is in the air. Bodily injury may occur.

CAUTION

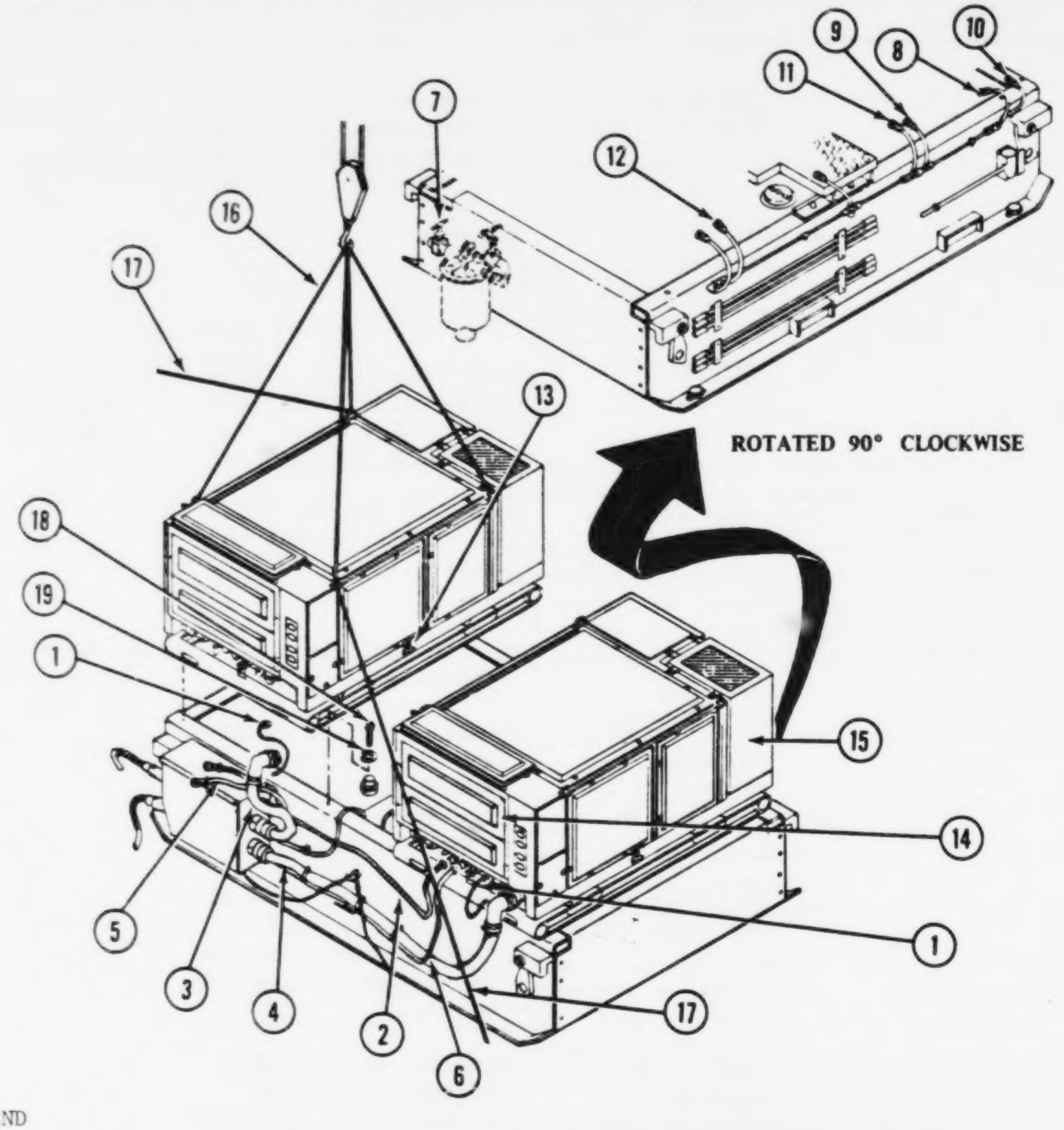
When lowering the generator set onto the pallet, take care that it does not swing into the other generator set or other equipment.

LOCATION	ITEM	ACTION	REMARKS
8. Pallet	a. Generator set (15)	Replace. With one person guiding wrecker operator and two people holding guy lines, lift generator set and place it on pallet assembly with mounting holes lined up.	
	b. Four capscrews (18), and four lockwashers (19)	Place in generator set and pallet holes. When all four capscrews are in position, disconnect cable sling assemblies and guy lines from generator set. Using 3/4-inch combination box- and open-end wrench, tighten each capscrew.	
9. Generator set	a. Fuel inlet line (8)	Remove dust cap. Install line using 5/8-inch open-end wrench. Turn to right and tighten.	Do not overtighten.
	b. FUEL FILTER DRAIN line (10)	Remove dust cap. Install line using 11/16-inch open-end wrench. Turn to right and tighten.	Do not overtighten.

4-9. MEP404B GENERATOR SET - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	c. COMBUSTOR DRAIN line (11)	Remove dust cap. Install line using 11/16-inch open-end wrench. Turn to right and tighten.	Do not over-tighten.
	d. OIL DRAIN fitting (13) and reduction drive vent cap	Remove.	
	e. FUEL DRAIN fitting (12)	Remove dust cap. Install line using 11/16-inch open-end wrench. Turn to right and tighten.	Do not over-tighten.
10. Fuel filter/ water separator	Fuel shutoff valve (outlet) (7)	Open fuel shutoff valve by turning handle to left.	
11. Pallet	Generator set (15)	Perform applicable installation steps.	See TM 5-6115-603-12.
12. Generator set	a. W7 (5) or W8 (6) signal cable	Connect. Attach connector P12-1 or P12-2 to REMOTE CONTROL connector J12 on output connector panel.	
	b. W9 (3) or W10 (4) power cable	Connect. Attach connector P30-1 or P30-2 to 400HZ OUTPUT connector J30 on output connector panel.	
	c. Auto start and compensation cable assembly (2)	Connect. Attach cable assembly to output connector J7 on output connector panel.	
	d. Ground wire (1)	Connect. Attach ground wire lead to GROUND terminal on output connector panel.	

4-9. MEP404B GENERATOR SET – MAINTENANCE INSTRUCTIONS (CONT)


10
9
8
11
12
7
16
17
13
ROTATED 90° CLOCKWISE
18
19
1
15
14
5
3
4
2
6
1
17

LEGEND

1 GROUND WIRE
2 AUTO START AND COMPENSATION CABLE ASSEMBLY
3 W9 POWER CABLE
4 W10 POWER CABLE
5 W7 SIGNAL CABLE
6 W8 SIGNAL CABLE
7 FUEL SHUTOFF VALVE (OUTLET)
8 FUEL INLET LINE
9 FUEL DRAIN VALVE
10 FUEL FILTER DRAIN LINE
11 COMBUSTOR DRAIN LINE
12 FUEL DRAIN FITTING
13 OIL DRAIN FITTING
14 CONTROL PANEL COVER
15 GENERATOR SET
16 WIRE ROPE SLING ASSEMBLY
17 GUY LINE
18 CAPSCREW
19 LOCKWASHER

4-10. W6 CABLE – MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Test
- c. Replace

INITIAL SETUP

Test Equipment

Multimeter, 6625-00-999-6282

Tools and Special Tools

General mechanic's tool kit:
automotive, 5180-00-177-7033
No. 1 cross-tip screwdriver

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
4-18	Walkway removed.

General Safety Instructions

WARNING

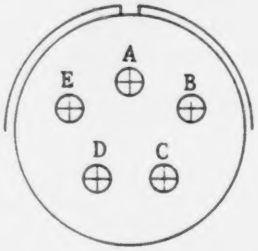
- Do not smoke or permit open flames around the fuel tank when removing cable for testing. This will create a fire hazard.
- Hazardous electrical voltages exist within system. Do not connect or remove electrical cables while power is on. Serious electric shock, burns, or death may result.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. PDU and fuel distribution unit	a. W6 cable (1)	Disconnect male connector P10 from female connector J10 on fuel distribution unit and male connector P11 from female connector J11 on PDU.	
	b. Screw (2), lock-spring washer (3), and clamp (4)	Remove. Using a no. 1 cross-tip screwdriver, remove screw, lock-spring washer, and clamp.	

4–10. W6 CABLE – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
TEST			
2. PDU and fuel distribution unit	W6 cable (1)	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table shown below, test cable. Start with pin A and work down. All readings should be zero ohms.	

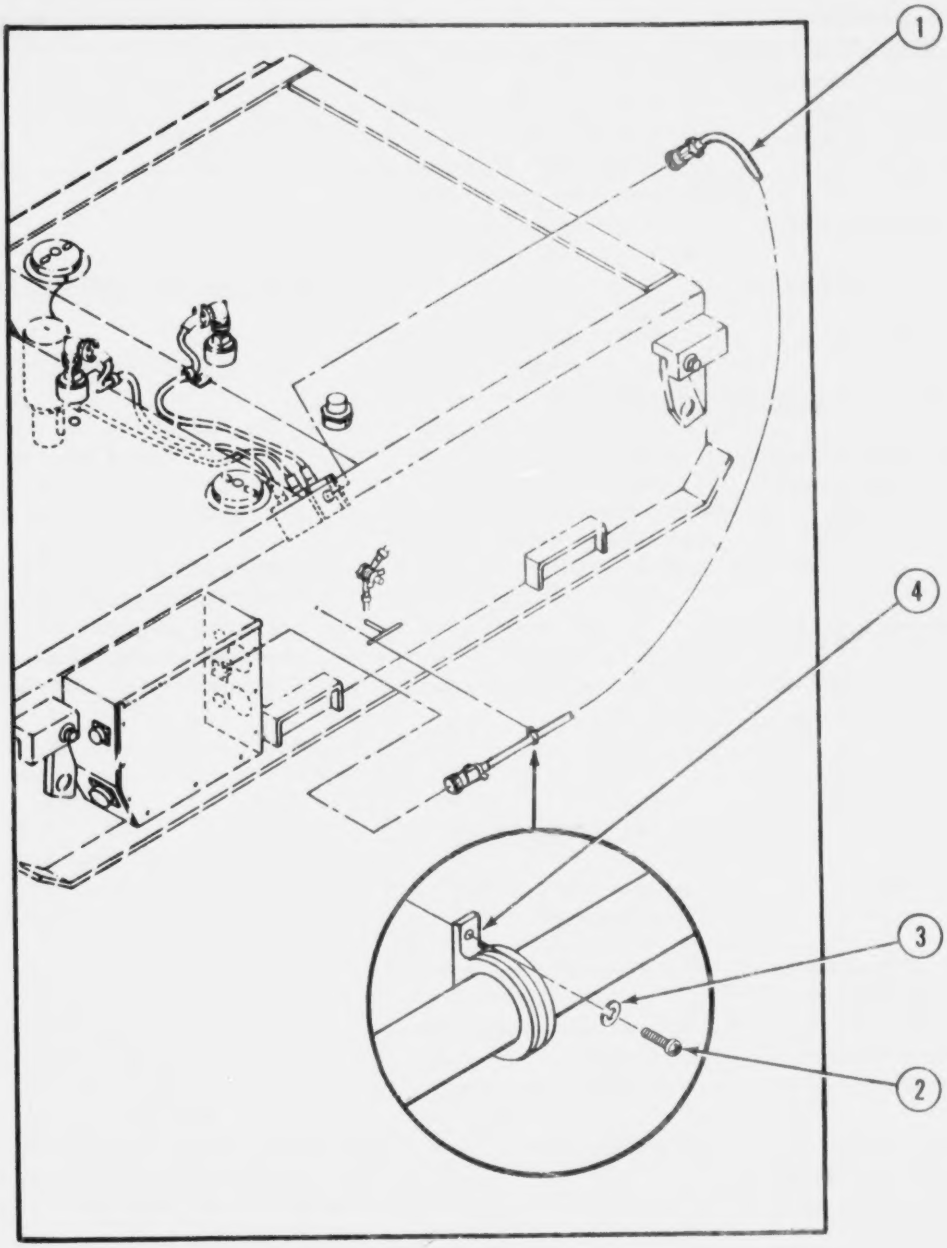
From		To	
Connector	Pin	Connector	Pin
P11	A	P10	A
P11	B	P10	B
P11	C	P10	C
P11	D	P10	D



P10 and P11

		Touch black lead to the metal portion of one connector shell. Touch red lead to each of the four pins. Reading should be infinity.	If cable does not give proper readings, replace the cable.
REPLACE			
3. PDU and fuel distribution unit	a. W6 cable (1)	Connect male connector P10 to female connector J10 on fuel distribution unit and male connector P11 to female connector J11 on the PDU.	
	b. Screw (2), lock-spring washer (3), and clamp (4)	Install. Using a no. 1 cross-tip screwdriver, install screw, lock-spring washer, and clamp.	

4-10. W6 CABLE – MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1 W6 CABLE
2 SCREW
3 LOCK-SPRING WASHER
4 CLAMP

4-11. W2 CABLE - MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Test
- c. Replace

INITIAL SETUP

Test Equipment

Multimeter, 6625-00-999-6282

Tools and Special Tools

General mechanic's tool kit:
automotive, 5180-00-177-7033
No. 1 cross-tip screwdriver
3/8-inch combination box- and open-end wrench

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
4-18	Walkway removed.

General Safety Instructions

WARNING

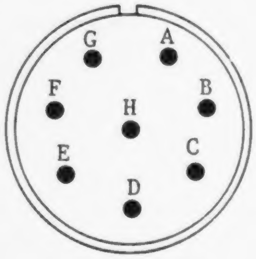
- Do not smoke or permit open flames around the fuel tank when removing cable for testing. This will create a fire hazard.
- Hazardous electrical voltages exist within system. Do not connect or remove electrical cables while power is on. Serious electric shock, burns, or death may result.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Fuel distribution unit	W2 cable (1)	Disconnect male connector P7 from female connector J7 on the fuel distribution unit.	
2. Primary tank fuel-level sensor	W2 cable (1)	Disconnect male connector P2 from female connector J2 on the primary tank fuel-level sensor.	

4–11. W2 CABLE – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
3. W2 cable	Screw (2), hex nut (3), and clamp (4)	Remove. Using a no. 1 cross-tip screwdriver and 3/8-inch combination box- and open-end wrench, remove screw, hex nut, and clamp.	
TEST			
4. Primary tank fuel-level sensor	W2 cable (1)	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table shown below, test cable. Start with pin A and work down. All readings should be zero ohms.	
		Touch black lead to the metal portion of one connector shell. Touch red lead to each of the four pins. Reading should be infinity.	If cable does not give proper readings, replace the cable.
REPLACE			
5. W2 cable	Screw (2), hex nut (3), and clamp (4)	Install. Using no. 1 cross-tip screwdriver and 3/8-inch combination box- and open-end wrench, install screw, hex nut, and clamp.	

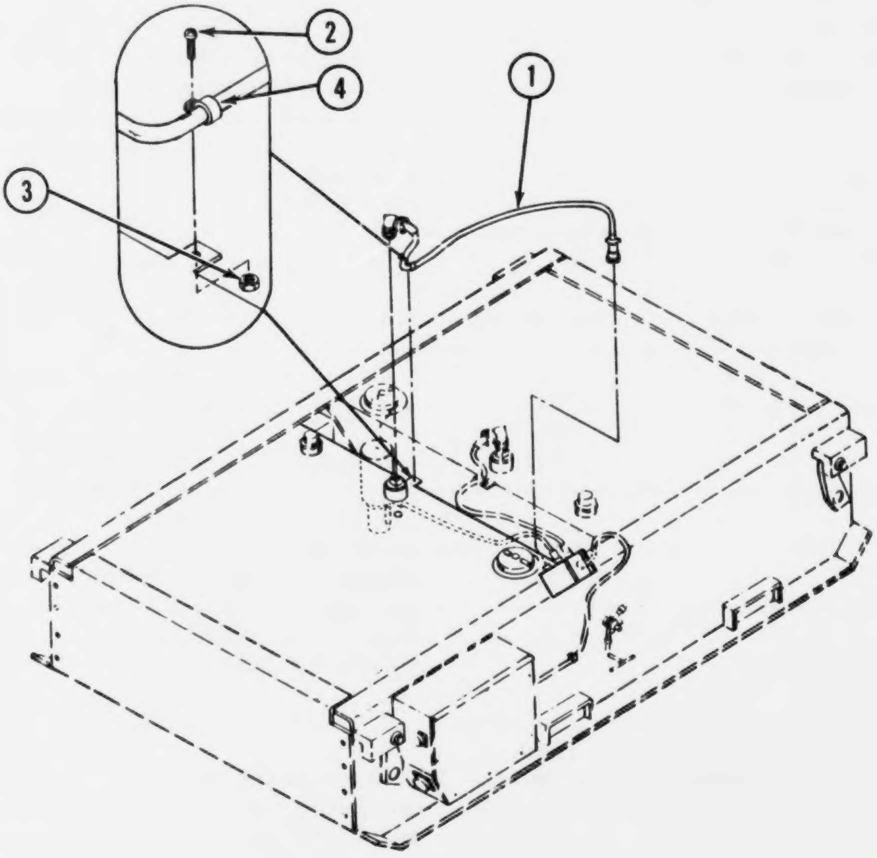
From		To	
Connector	Pin	Connector	Pin
P7	A	P2	A
P7	B	P2	B
P7	C	P2	C
P7	D	P2	D



P7 and P2

4-11. W2 CABLE – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
6. Fuel distribution unit	W2 cable (1)	Connect male connector P7 to female connector J7 on fuel distribution unit.	
7. Primary tank fuel-level sensor	W2 cable (1)	Connect male connector P2 to female connector J2 on the primary tank fuel-level sensor.	



LEGEND

1	W2 CABLE
2	SCREW
3	HEX NUT
4	CLAMP

4-12. W4 CABLE - MAINTENANCE INSTRUCTIONS

This task covers:
a. Remove
b. Test
c. Replace

INITIAL SETUP

Test Equipment

Multimeter, 6625-00-999-6282

Tools and Special Tools

General mechanic's tool kit:
  automotive, 5180-00-177-7033
    No. 1 cross-tip screwdriver
    3/8-inch combination box- and open-end wrench

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
4-18	Walkway removed.

General Safety Instructions

WARNING

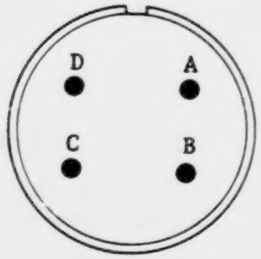
- Do not smoke or permit open flames around the fuel tank when removing cable for testing. This will create a fire hazard.
- Hazardous electrical voltages exist within system. Do not connect or remove electrical cables while power is on. Serious electric shock, burns, or death may result.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Fuel distribution unit	W4 cable (1)	Disconnect male connector P9 from female connector J9 on the fuel distribution unit.	
2. Secondary tank fuel-level sensor	W4 cable (1)	Disconnect male connector P4 from female connector J4 on the secondary tank fuel-level sensor.	

4-12. W4 CABLE – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
3. W4 cable	Screw (2), hex nut (3), and clamp (4)	Remove. Using a no. 1 cross-tip screwdriver and 3/8-inch combination box- and open-end wrench, remove screw, hex nut, and clamp.	
TEST			
4. Secondary tank fuel-level sensor	W4 cable (1)	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table shown below, test cable. Start with pin A and work down. All readings should be zero ohms.	

From		To	
Connector	Pin	Connector	Pin
P9	A	P4	A
P9	B	P4	B
P9	C	P4	C
P9	D	P4	D

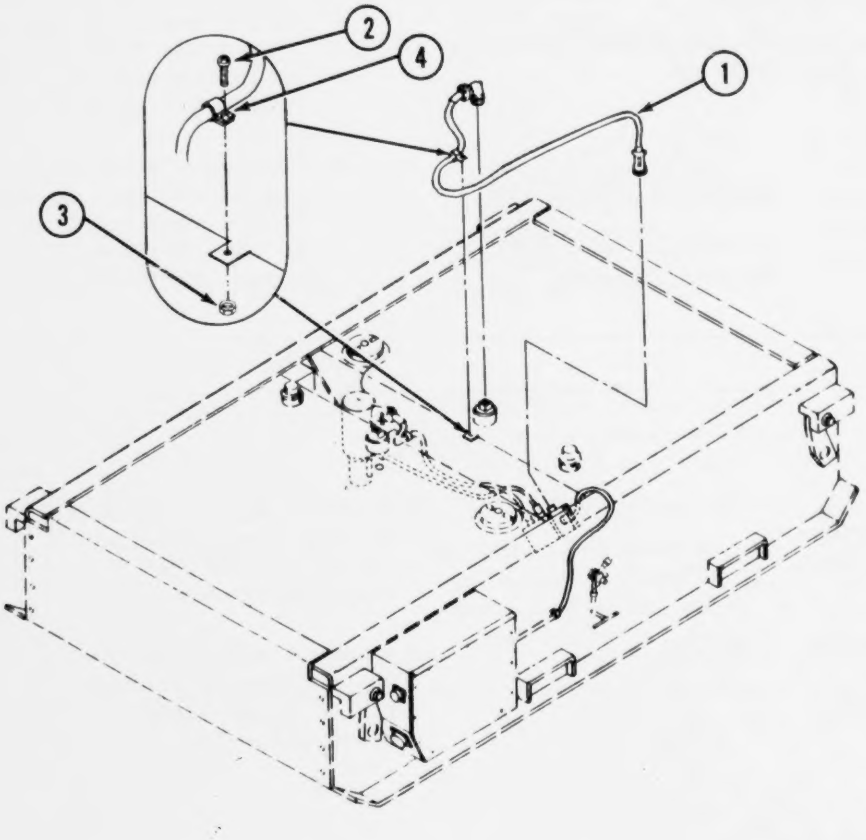


P4 and P9

LOCATION	ITEM	ACTION	REMARKS
		Touch black lead to the metal portion of one connector shell. Touch red lead to each of the four pins. Reading should be infinity.	If cable does not give proper readings, replace the cable.
REPLACE			
5. W4 cable	Screw (2), hex nut (3), and clamp (4)	Install. Using a no. 1 cross-tip screwdriver and 3/8-inch combination box- and open-end wrench, install screw, hex nut, and clamp.	

4-12. W4 CABLE – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
6. Fuel distribution unit	W4 cable (1)	Connect male connector P9 to female connector J9 on fuel distribution unit.	
7. Secondary tank fuel-level sensor	W4 cable (1)	Connect male connector P4 to female connector J4 on secondary tank fuel-level sensor.	



LEGEND

1 W4 CABLE
2 SCREW
3 HEX NUT
4 CLAMP

4-13. W3 CABLE – MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Test
- c. Replace

INITIAL SETUP

Test Equipment

Multimeter, 6625-00-999-6282

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
4-18	Walkway removed.

General Safety Instructions

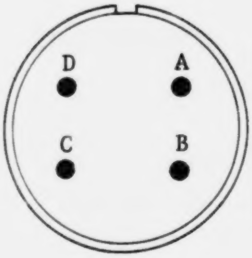
WARNING

- Do not smoke or permit open flames around the fuel tank when removing cable for testing. This will create a fire hazard.
- Hazardous electrical voltages exist within system. Do not connect or remove electrical cable while power is on. Serious electric shock, burns, or death may result.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Fuel distribution unit	W3 cable (1)	Disconnect male connector P8 from female connector J8 on the fuel distribution unit.	
2. Solenoid valve assembly	W3 cable (1)	Disconnect male connector P3 from female connector J3 on solenoid valve assembly.	
TEST			
3. Solenoid valve assembly	W3 cable (1)	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table below, test cable. Start with	

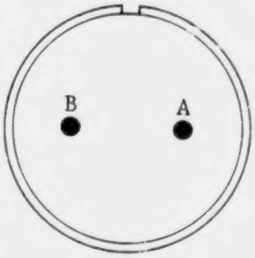
4–13. W3 CABLE – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		pin A and work down. All readings should be zero ohms.	



P8

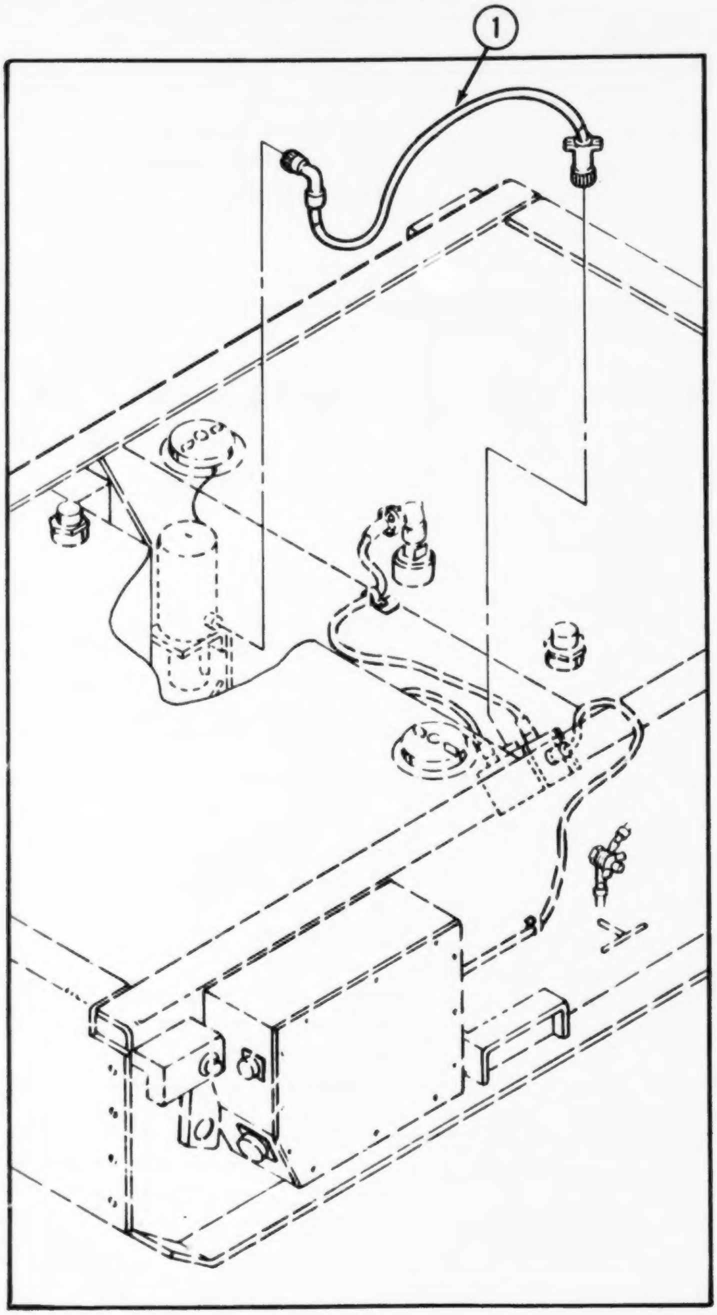
From		To	
Connector	Pin	Connector	Pin
P8	A	P3	A
P8	B	P3	B



P3

		Touch black lead to the metal portion of one connector shell. Touch red lead to each of the two pins. Reading should be infinity.	If cable does not give proper readings, replace the cable.
REPLACE			
4. Fuel distribution unit	W3 cable (1)	Connect male connector P8 to female connector J8 on the fuel distribution unit.	
5. Solenoid valve assembly	W3 cable (1)	Connect male connector P3 to female connector J3 on the solenoid valve assembly.	

4–13. W3 CABLE – MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1 W3 CABLE

4-14. AUTO START AND COMPENSATION CABLE ASSEMBLY - MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Test
- c. Replace

INITIAL SETUP

Test Equipment

Multimeter, 6625-00-999-6282

Tools and Special Tools

General mechanic's tool kit: automotive, 5180-00-177-7033
No. 1 cross-tip screwdriver

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.

General Safety Instructions

WARNING

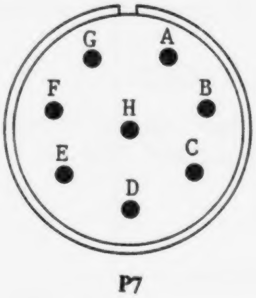
Hazardous electrical voltages exist within system. Do not connect or remove electrical cables while power is on. Serious electric shock, burns, or death may result.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Generator set	a. Auto start and compensation cable assembly (1)	Disconnect male connector P7 from female connector J7 on output connector panel of front generator (2).	
	b. Auto start and compensation cable assembly (1)	Disconnect male connector P7 from female connector J7 on output connector panel of rear generator (3).	
	c. Two screws (4), two lock-spring washers (5), and two clamps (6)	Remove. Using a no. 1 cross-tip screwdriver, remove screws, lock-spring washers, and clamps.	

4-14. AUTO START AND COMPENSATION CABLE ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
TEST			
2. Generator set	Auto start and compensation cable assembly (1)	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table shown below, test cable. Start with pin A and work down. All readings should be zero ohms.	

From		To	
Connector	Pin	Connector	Pin
P7	A	P7	A
P7	B	P7	B
P7	C	P7	C
P7	D	P7	D
P7	E	P7	E
P7	F	P7	F
P7	H	P7	H

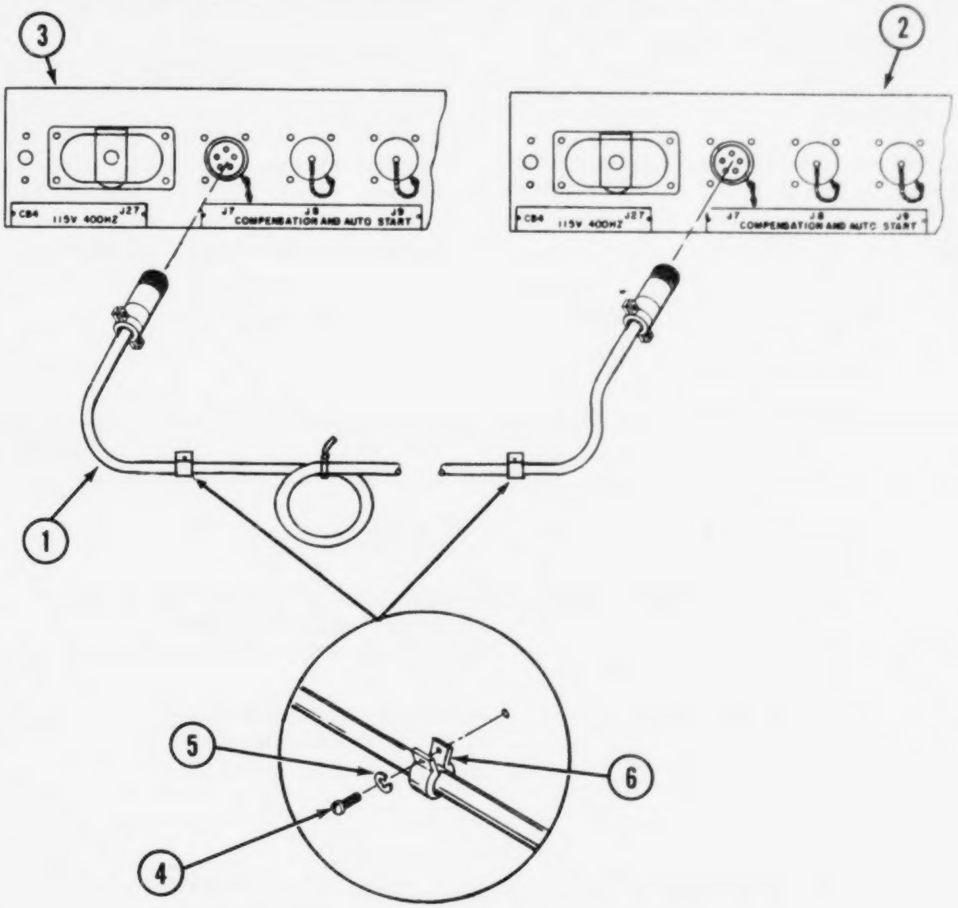


P7

LOCATION	ITEM	ACTION	REMARKS
		Touch black lead to metal portion of one connector shell. Touch red lead to each of the seven pins. Reading should be infinity.	If cable does not give proper readings, replace the cable.
REPLACE			
3. Generator set	a. Auto start and compensation cable assembly (1)	Connect male connector P7 to female connector J7 on output connector panel of front generator (2).	
	b. Auto start and compensation cable assembly (1)	Connect male connector P7 to female connector J7 on output connector panel of rear generator (3).	

4-14. AUTO START AND COMPENSATION CABLE ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	c. Two screws (4), two lock-spring washers (5), and two clamps (6)	Replace. Using a no. 1 cross-tip screwdriver, replace screws, lock-spring washers, and clamps.	


3
2
CB4
115V 400HZ
J27
J7
J8
J9
COMPENSATION AND AUTO START
1
5
6
4

LEGEND

1	AUTO START AND COMPENSATION CABLE ASSEMBLY
2	OUTPUT CONNECTOR PANEL, FRONT GENERATOR
3	OUTPUT CONNECTOR PANEL, REAR GENERATOR
4	SCREW
5	LOCK-SPRING WASHER
6	CLAMP

4-15. W1 POWER CABLE – MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Test
- c. Replace

INITIAL SETUP

Test Equipment

Multimeter, 6625-00-999-6282

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.

General Safety Instructions

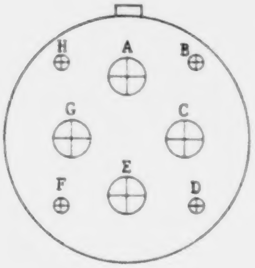
WARNING

Hazardous electrical voltages exist within system. Do not connect or remove electrical cables while power is on. Serious electric shock, burns, or death may result.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. PDU	W1 power cable (1)	Disconnect male connector P1 from female connector J1 on PDU.	
2. ICC or CRG	W1 power cable (1)	Disconnect male connector P2 from female connector J2 on ICC or CRG.	
TEST			
3. PDU and ICC or CRG	W1 power cable (1)	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table shown below, test cable. Start with pin B and work down. All readings should be zero ohms.	

4-15. W1 POWER CABLE – MAINTENANCE INSTRUCTIONS (CONT)

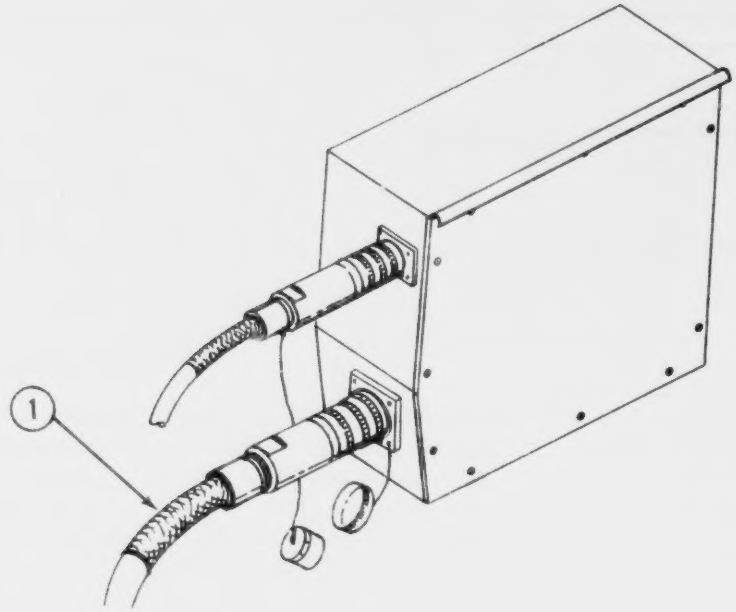
From		To	
Connector	Pin	Connector	Pin
P2	B	P1	B
P2	D	P1	D
P2	A	P1	A
P2	C	P1	C
P2	G	P1	G
P2	E	P1	E

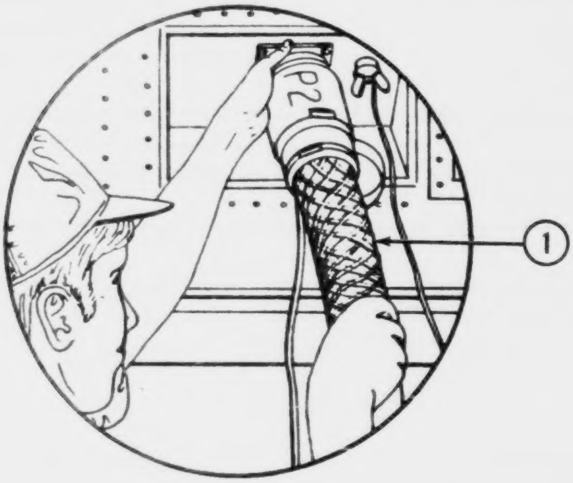


P1 and P2

LOCATION	ITEM	ACTION	REMARKS
		Touch black lead to the metal portion of one connector shell. Touch red lead to each of the six pins. Reading should be infinity.	If cable does not give proper readings, replace the cable.
REPLACE			
4. PDU	W1 power cable (1)	Connect male connector P1 to female connector J1 on PDU.	
5. ICC or CRG	W1 power cable (1)	Connect male connector P2 to female connector J2 on ICC or CRG.	

4-15. W1 POWER CABLE – MAINTENANCE INSTRUCTIONS (CONT)





LEGEND

1 W1 POWER CABLE

4-16. W5 CABLE – MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Test
- c. Replace

INITIAL SETUP

Test Equipment

Multimeter, 6625-00-999-6282

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.

General Safety Instructions

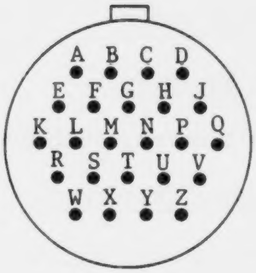
WARNING

Hazardous electrical voltages exist within system. Do not connect or remove electrical cables while power is on. Serious electric shock, burns, or death may result.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. PDU	W5 cable (1)	Disconnect male connector P6 from female connector J6 on PDU.	
2. ICC or CRG	W5 cable (1)	Disconnect male connector P5 from female connector J5 on ICC or CRG.	
TEST			
3. PDU and ICC or CRG	W5 cable (1)	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table shown below, test cable. Start with pin L and work down. All readings should be zero ohms.	

4–16. W5 CABLE – MAINTENANCE INSTRUCTIONS (CONT)

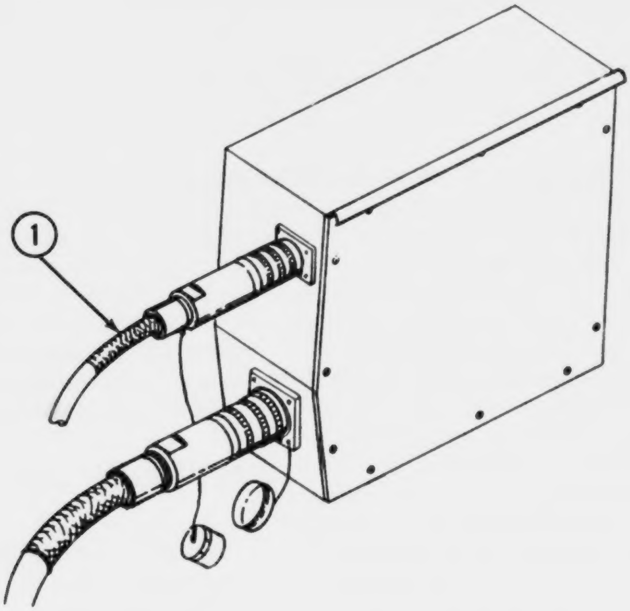
From		To	
Connector	Pin	Connector	Pin
P5	L	P6	L
P5	F	P6	F
P5	G	P6	G
P5	H	P6	H
P5	U	P6	U
P5	P	P6	P
P5	R	P6	R
P5	S	P6	S
P5	Q	P6	Q
P5	M	P6	M
P5	N	P6	N

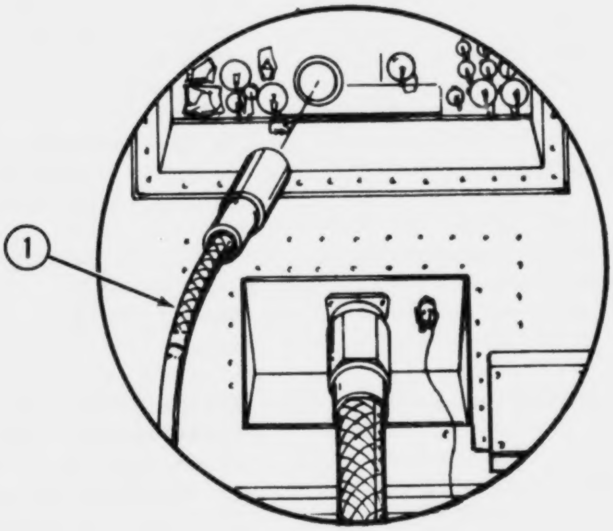


P5 and P6

LOCATION	ITEM	ACTION	REMARKS
		Touch black lead to the metal portion of one connector shell. Touch red lead to each of the eleven pins. Reading should be infinity.	If cable does not give proper readings, replace cable.
REPLACE			
4. PDU	W5 cable (1)	Connect male connector P6 to female connector J6 on PDU.	
5. ICC or CRG	W5 cable (1)	Connect male connector P5 to female connector J5 on ICC or CRG.	

4-16. W5 CABLE – MAINTENANCE INSTRUCTIONS (CONT)





LEGEND

1 W5 CABLE

4-17. PALLET ASSEMBLY – MAINTENANCE INSTRUCTIONS

This task covers:
  a. Remove
  b. Replace

INITIAL SETUP

Tools and Special Tools

- General mechanic's tool kit: automotive, 5180-00-177-7033
  - Hand hammer
  - Chisel
  - No. 2 cross-tip screwdriver
  - 3/4-inch combination box- and open-end wrench
  - 1-1/8 inch socket, 1/2-inch square female drive
  - Reversible socket wrench ratchet, 1/2-inch square drive
- 1-1/8 inch combination box- and open-end wrench, 5120-00-228-9516
- Four wire rope sling assemblies, 4010-01-083-2543
- Shackle, 4030-01-035-8942
- M816 5-ton wrecker truck, 2320-00-051-0489

Materials/Parts

- Suitable container to hold 7 quarts of fuel
- Two 12-foot lengths of 1/4-inch rope, item 10, appendix D
- Rags, item 11, appendix D

Personnel Required

- Two turbine engine driven generator repairers, MOS 52F
- One EPU operator
- One wrecker truck operator, MOS 63B

References

Generator Installation, TM 5-6115-603-12

Equipment Condition Para	Condition Description
2-10	Generator shut down for march conditions.
4-9	Generator sets removed.
4-4	Generators dismantled for movement, TM 5-6115-603-12

General Safety Instructions

WARNING

- Do not smoke or permit open flames within 50 feet (15.3 meters) of the generator set during fuel handling operations. Do not allow fuel to drain onto the ground. This will create a fire hazard.

- Do not get under the pallet assembly while it is in the air. Bodily injury may occur.

CAUTION

- When lifting or lowering pallet assembly to ground, provide blocking to allow a minimum of 6 inches (15.24 centimeters) of clearance between the pallet frame and the ground. Blocking is necessary to prevent damage to the fuel filter/water separator.

- When lifting or lowering the pallet assembly, make sure it does not swing into the trailer. Damage to equipment may result.

4-17. PALLET ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT)

REMOVE

NOTE

Pallet data plates, sledgehammer, sledgehammer bracket assembly and spring clip, ground rod sections, and lifting ears are removed from pallet assembly only if individual item is defective. Removal of these items is not required before removing pallet assembly from trailer.

LOCATION	ITEM	ACTION	REMARKS
1. Pallet frame	a. Four drive screws (1) and schematic diagram plate (2)	Remove. Using hand hammer and chisel, remove drive screws securing schematic diagram plate to pallet frame.	
	b. Four drive screws (3) and identification plate (4)	Remove. Using hand hammer and chisel, remove drive screws securing identification plate to pallet frame.	
	c. Four drive screws (5) and fuel diagram plate (6)	Remove. Using hand hammer and chisel, remove drive screws securing fuel diagram plate to pallet frame.	
	d. Four drive screws (7) and data handling plate (8)	Remove. Using hand hammer and chisel, remove drive screws securing data handling plate to pallet frame.	
	e. Two wingnuts (9), two lockwashers (10), two flat washers (11), bracket plate (12), sledgehammer (13), two machine screws (14), two lockwashers (15), and bracket assembly (16)	Remove. Remove wingnut, lockwasher, flat washer, bracket plate, and sledgehammer. Using no. 2 cross-tip screwdriver, remove machine screws, lockwashers, and bracket assembly.	

4-17. PALLET ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	f. Machine screw (17), lockwasher (18), and spring clip (19)	Remove. Using no. 2 cross-tip screwdriver, remove machine screw, lockwasher, and spring clip.	
	g. Two wingnuts (20), two lockwashers (21), two flat washers (22), two plates (23), and two ground rod sections (24)	Remove. Remove wingnuts, lockwashers, flat washers, plates, and ground rod sections from the ground rod section clamps (25).	
	h. Four ground rod section clamps (25), eight machine screws (26), and eight lockwashers (27)	Remove. Using no. 2 cross-tip screwdriver, remove machine screws, lockwashers, and ground rod section clamps.	
	i. Four flat washers (28), four bolts (29), and four lifting ears (30)	Remove. Using 3/4-inch combination box- and open-end wrench, remove bolts, flat washers, and lifting ear. Repeat procedure to remove three remaining lifting ears.	
2. Pallet ground terminal	Wingnut (31), flat washer (32), and trailer ground wire (33)	Remove trailer ground wire by removing wingnut and flat washer from ground terminal.	Ensure that the ground wire is freed from the pallet during removal.
3. Pallet frame	a. Six capscrews (34), six flat washers (35), six locknuts (36) securing pallet to trailer center tube support	Remove. Using 1-1/8 inch socket and reversible ratchet, and 1-1/8 inch combination box- and open-end wrench, remove capscrews, flat washers, and locknuts.	If unable to loosen, use the hinged socket wrench handle.

4–17. PALLET ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	b. Wire rope sling assemblies (37)	Connect wire rope sling assemblies. Place hooks of sling assemblies through the four lifting eyes of pallet.	
	c. Wrecker truck	Move wrecker truck near pallet so that hoisting hook is centered over it. Lower hoisting hook to about 1 foot (0.3 meter) above pallet.	
	d. Wire rope sling assemblies (37)	Place wire rope sling assemblies on hoisting hook.	
	e. Guy lines (38)	Attach two lines, one to front lifting ear and the other to rear lifting ear on opposite side of pallet.	

WARNING

Do not get under pallet assembly while it is in the air. Bodily injury may occur.

CAUTION

- When lifting or lowering pallet assembly to the ground, provide blocking to allow a minimum of 6 inches (15.24 centimeters) of clearance between the pallet frame and the ground. Blocking is necessary to prevent damage to the fuel filter/water separator.
- When lifting or lowering pallet assembly, make sure it does not swing into the trailer. Damage to equipment may result.

LOCATION	ITEM	ACTION	REMARKS
	f. Pallet (39)	Remove. With one person guiding the wrecker truck operator and two people holding the guy lines, lift pallet assembly from trailer	

4-17. PALLET ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		and move it to a predetermined location. Set it down on blocks at least 6 inches (15.24 centimeters) off the ground to prevent damage to the fuel filter/water separator. Disconnect wire rope sling assemblies and guy lines from pallet.	
REPLACE			
4. Pallet frame	a. Wire rope sling assemblies (37)	Connect wire rope sling assemblies to four lifting eyes of pallet.	
	b. Wrecker truck	Move wrecker truck near pallet so that hoisting hook is centered over it. Lower hoisting hook to about 1 foot (0.3 meter) above the pallet.	
	c. Wire rope sling assemblies (37)	Place wire rope sling assemblies on hoisting hook.	
	d. Guy lines (38)	Attach two lines, one to front lifting ear and the other to rear lifting ear on opposite side of pallet.	

4-17. PALLET ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS

WARNING

Do not get under pallet assembly while it is in the air. Bodily injury may occur.

CAUTION

When lifting or lowering pallet assembly, make sure it does not swing into the trailer. Damage to equipment may result.

	e. Pallet (39)	Replace. With one person guiding the wrecker truck operator and two people holding the guy lines, lift pallet assembly and place it on trailer center tube support with mounting holes lined up.	
	f. Six capscrews (34), six flat washers (35), and six locknuts (36)	Place in pallet and center tube support holes. When all six capscrews are in position, disconnect wire rope sling assemblies and guy lines from pallet. Using reversible socket wrench ratchet with 1-1/8 inch socket, and 1-1/8 inch combination box- and open-end wrench, tighten each capscrew.	
5. Pallet ground terminal	Trailer ground wire (33), flat washer (32), and wingnut (31)	Secure trailer internal ground wire to pallet ground terminal with flat washer and wingnut.	
6. Pallet frame	a. Four flat washers (28), four bolts (29), and four lifting ears (30)	Replace. Place flat washer on bolt. Place bolt in mounting hole from outside of pallet frame. Place lifting	

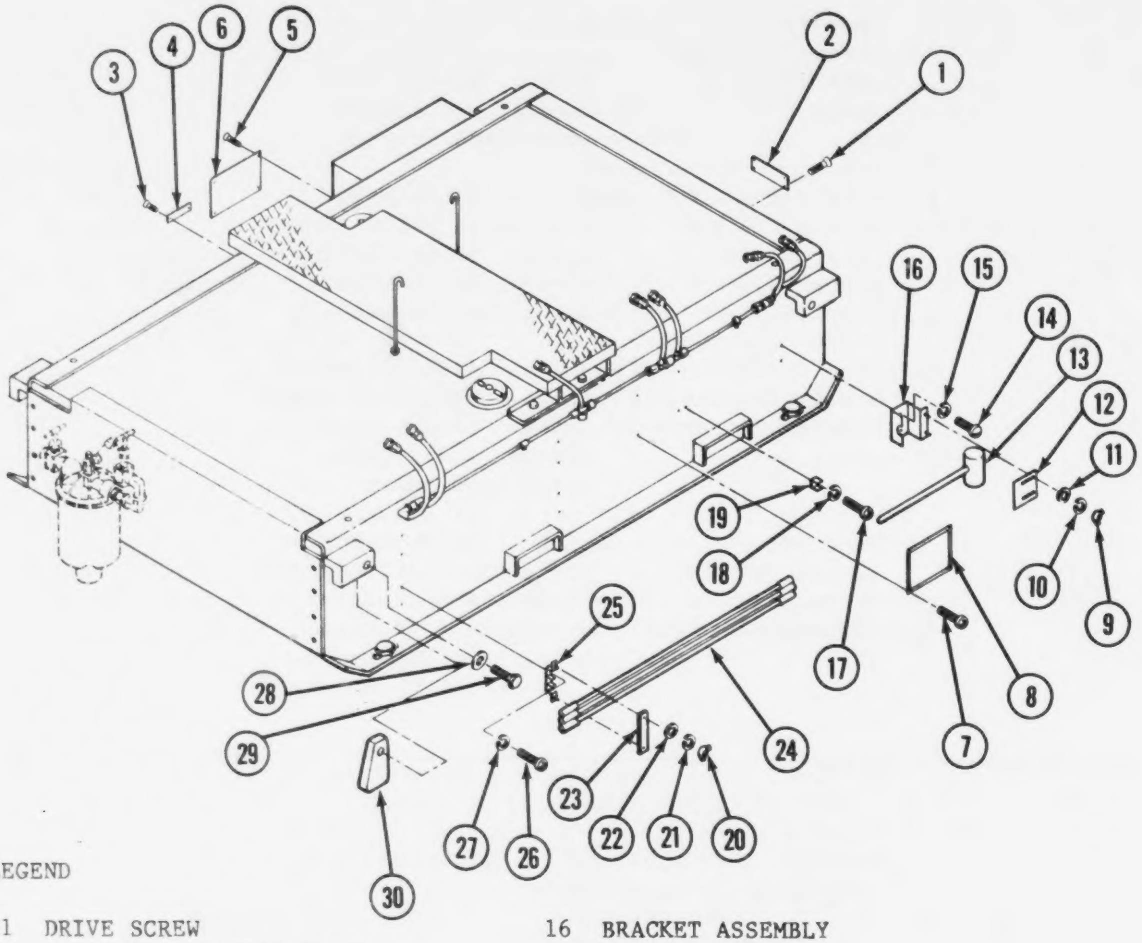
4-17. PALLET ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		ear into slot and push bolt into mounting hole. Tighten using 3/4-inch combination box- and open-end wrench. Repeat procedure to replace three remaining lifting ears.	
	b. Eight lockwashers (27), eight machine screws (26), and four ground rod section clamps (25)	Replace. Install lockwashers, machine screws, and four ground rod section clamps. Tighten machine screws using no. 2 cross-tip screwdriver.	
	c. Two ground rod sections (24), two plates (23), two flat washers (22), two lockwashers (21), and two wingnuts (20)	Replace. Place ground rod sections into ground rod section clamps (25). Install plate, flat washers, and lockwashers; tighten wingnuts.	
	d. Machine screw (17), lockwasher (18), and spring clip (19)	Replace. Insert machine screw and lockwasher into spring clip on pallet frame. Tighten using no. 2 cross-tip screwdriver.	
	e. Bracket assembly (16), two lockwashers (15), two machine screws (14), sledgehammer (13), bracket plate (12), flat washer (11), lockwasher (10), and wingnut (9)	Replace. Place lockwashers on machine screws and insert machine screws through bracket and into pallet mounting holes. Tighten using no. 2 cross-tip screwdriver. Insert sledgehammer into bracket assembly and spring clip (19). Install bracket plate, flat washer, and lockwasher; tighten wingnuts.	

4-17. PALLET ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	f. Four drive screws (7) and data handling plate (8)	Replace. Aline holes of plate with pallet frame holes. Insert drive screws, and tighten using hand hammer.	
	g. Four drive screws (5) and fuel diagram plate (6)	Replace. Aline holes of plate with pallet frame holes. Insert drive screws, and tighten using hand hammer.	
	h. Four drive screws (3) and identification plate (4)	Replace. Aline holes of plate with pallet frame holes. Insert drive screws, and tighten using hand hammer.	
	i. Four drive screws (1) and schematic diagram plate (2)	Replace. Aline holes of plate with pallet frame holes. Insert drive screws, and tighten using hand hammer.	

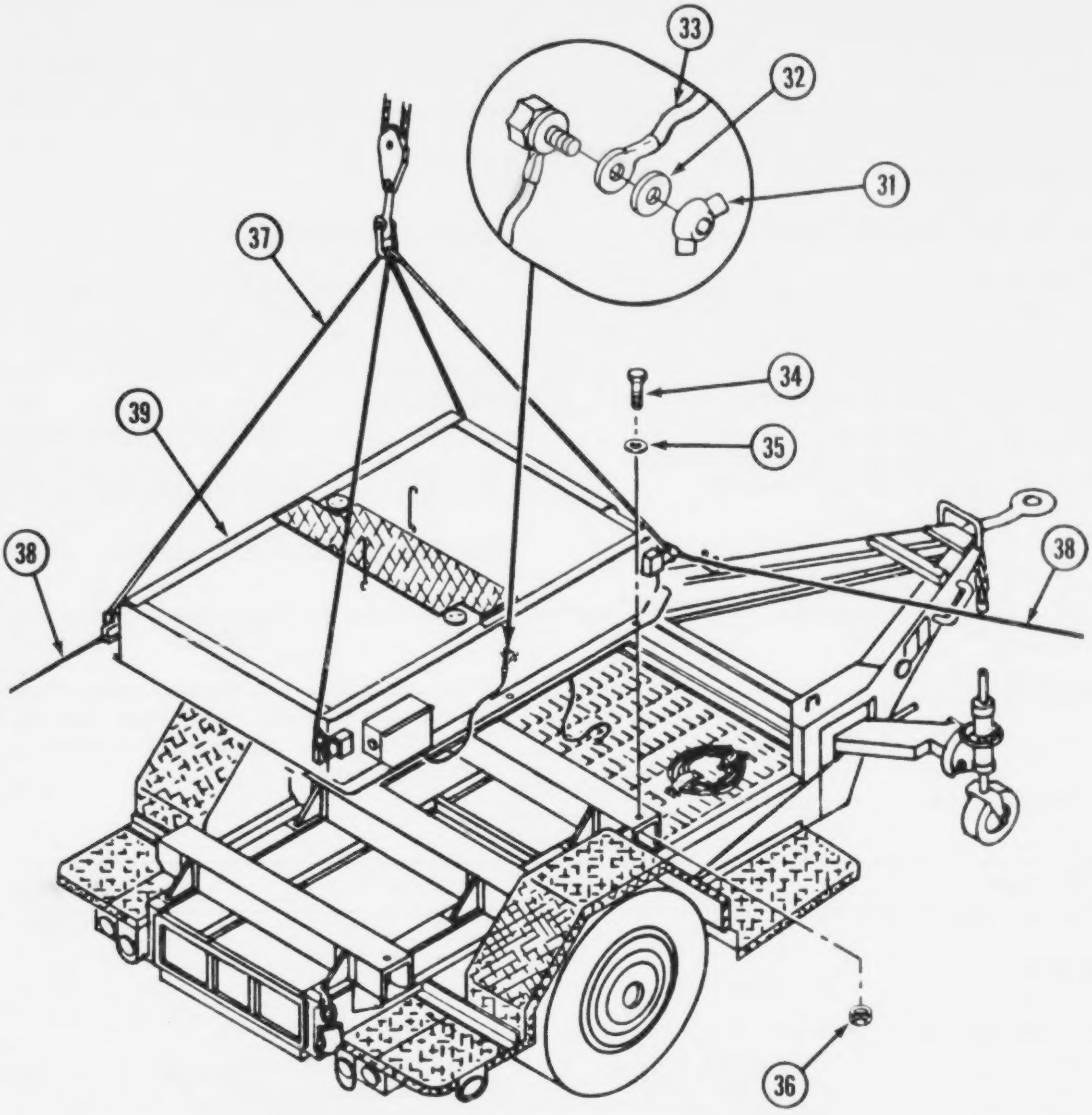
4-17. PALLET ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1	DRIVE SCREW
2	SCHEMATIC DIAGRAM PLATE
3	DRIVE SCREW
4	IDENTIFICATION PLATE
5	DRIVE SCREW
6	FUEL DIAGRAM PLATE
7	DRIVE SCREW
8	DATA HANDLING PLATE
9	WINGNUT
10	LOCKWASHER
11	FLAT WASHER
12	BRACKET PLATE
13	SLEDGEHAMMER
14	MACHINE SCREW
15	LOCKWASHER
16	BRACKET ASSEMBLY
17	MACHINE SCREW
18	LOCKWASHER
19	SPRING CLIP
20	WINGNUT
21	LOCKWASHER
22	FLAT WASHER
23	PLATE
24	GROUND ROD SECTIONS
25	GROUND ROD SECTION CLAMP
26	MACHINE SCREW
27	LOCKWASHER
28	FLAT WASHER
29	BOLT
30	LIFTING EAR

4-17. PALLET ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)


33
32
31
37
34
39
35
38
38
36

LEGEND

31	WINGNUT	36	LOCKNUT
32	FLAT WASHER	37	SLING ASSEMBLY
33	TRAILER GROUND WIRE	38	GUY LINES
34	CAPSCREW	39	PALLET
35	FLAT WASHER		

4-18. FUEL TANK VENT - MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Replace

INITIAL SETUP

Tools and Special Tools

- General mechanic's tool kit: automotive, 5180-00-177-7033
  - 11/16-inch combination box- and open-end wrench
  - 5/8-inch combination box- and open-end wrench
  - 1/2-inch combination box- and open-end wrench
  - 1/2-inch socket, 1/2-inch square female drive
  - Reversible socket wrench ratchet, 1/2-inch square drive

Materials/Parts

- Sealing compound, item 12, appendix D
- Rags, item 11, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.

General Safety Instructions

WARNING

Do not smoke or permit open flames around the fuel tank vent during replacement. This will create a fire hazard.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Pallet	Walkway (1), four capscrews (2), and four lockwashers (3)	Remove. Using 1/2-inch combination box- and open-end wrench, and 1/2-inch socket with reversible ratchet, remove capscrews and lockwashers. Remove walkway.	

4-18. FUEL TANK VENT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
2. Fuel tank vent	a. Pipe adapter (4)	Using 5/8-inch combination box- and open-end wrench, hold adapter firmly while removing fuel tank vent.	
	b. Fuel tank vent (5)	Remove. Using 11/16-inch combination box- and open-end wrench, remove fuel tank vent.	

WARNING

Do not smoke or permit open flames around the fuel tank vent during replacement. This will create a fire hazard.

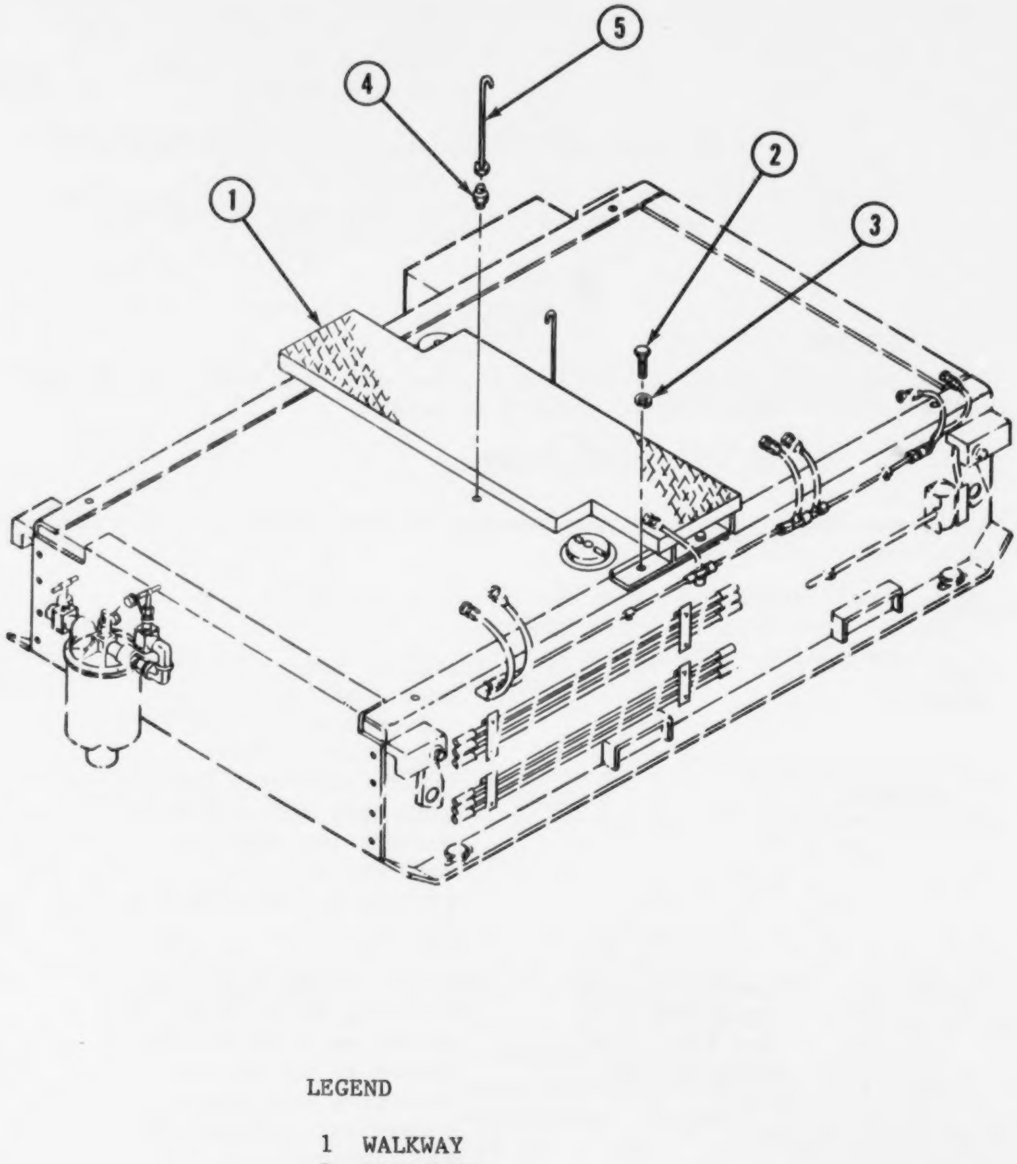
NOTE

Apply sealing compound to pipe adapter threads prior to installing fuel tank vent.

REPLACE

LOCATION	ITEM	ACTION	REMARKS
3. Pipe adapter	Fuel tank vent (4)	Install. Using 11/16-inch combination box- and open-end wrench to hold adapter still while tightening fuel tank vent with 5/8-inch combination box- and open-end wrench, install on pipe adapter (4).	
4. Pallet	Walkway (1), four capscrews (2), and four lockwashers (3)	Secure. Aline walkway mounting holes with pallet mounting holes. Secure to pallet by inserting four capscrews and lockwashers, and tighten using 1/2-inch combination box- and open-end wrench, and 1/2-inch socket with reversible ratchet.	

4-18. FUEL TANK VENT - MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1 WALKWAY
2 CAPSCREW
3 LOCKWASHER
4 PIPE ADAPTER
5 FUEL TANK VENT

4-19. FUEL-LEVEL SENSORS - MAINTENANCE INSTRUCTIONS

This task covers:
a. Remove
b. Test
c. Replace

INITIAL SETUP

Test Equipment

Multimeter, 6625-00-999-6282

Tools and Special Tools

18-inch pipe wrench, 5120-00-277-1479

Materials/Parts

Sealing compound, item 12, appendix D
Rags, item 11, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
4-18	Walkway removed.

General Safety Instructions

WARNING

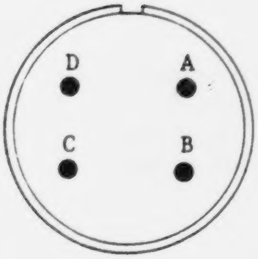
Do not smoke or permit open flames around the fuel tank during replacement. This will create a fire hazard.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Primary fuel tank (1)	a. W2 cable	Disconnect male connector P2 (2) from female connector J2 on primary tank fuel-level sensor (3).	

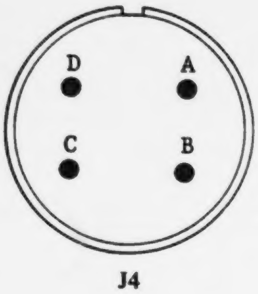
4-19. FUEL-LEVEL SENSORS – MAINTENANCE INSTRUCTIONS (CONT)

WARNING

Do not smoke or permit open flames around the fuel tank during replacement. This will create a fire hazard.

LOCATION	ITEM	ACTION	REMARKS
	b. Primary tank fuel-level sensor (3)	Remove from tank using 18-inch pipe wrench.	Remove fuel tank vent if needed. See paragraph 4-18.
2. Secondary fuel tank (4)	a. W4 cable	Remove. Disconnect male connector P4 (5) from female connector J4 on secondary tank fuel-level sensor (6).	
	b. Secondary tank fuel-level sensor (6)	Remove from tank using 18-inch pipe wrench.	Remove fuel tank vent if needed. See paragraph 4-18.
TEST			
3. Primary fuel tank	Primary tank fuel-level sensor  J2	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Touch black (negative) lead to pin A and red (positive) lead to pin D. Move bottom float down until metal contacts on float and on sensor are touching. With contacts touching, reading should be zero ohms.	If correct reading is not obtained, replace primary tank fuel-level sensor.
4. Secondary fuel tank	Secondary tank fuel-level sensor	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Touch	If correct reading is not obtained, replace

4-19. FUEL-LEVEL SENSORS - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		black (negative) lead to pin A and red (positive) lead to pin C. Move middle float down until metal contacts on float and on sensor are touching. With contacts touching, reading should be zero ohms.	secondary tank fuel-level sensor.

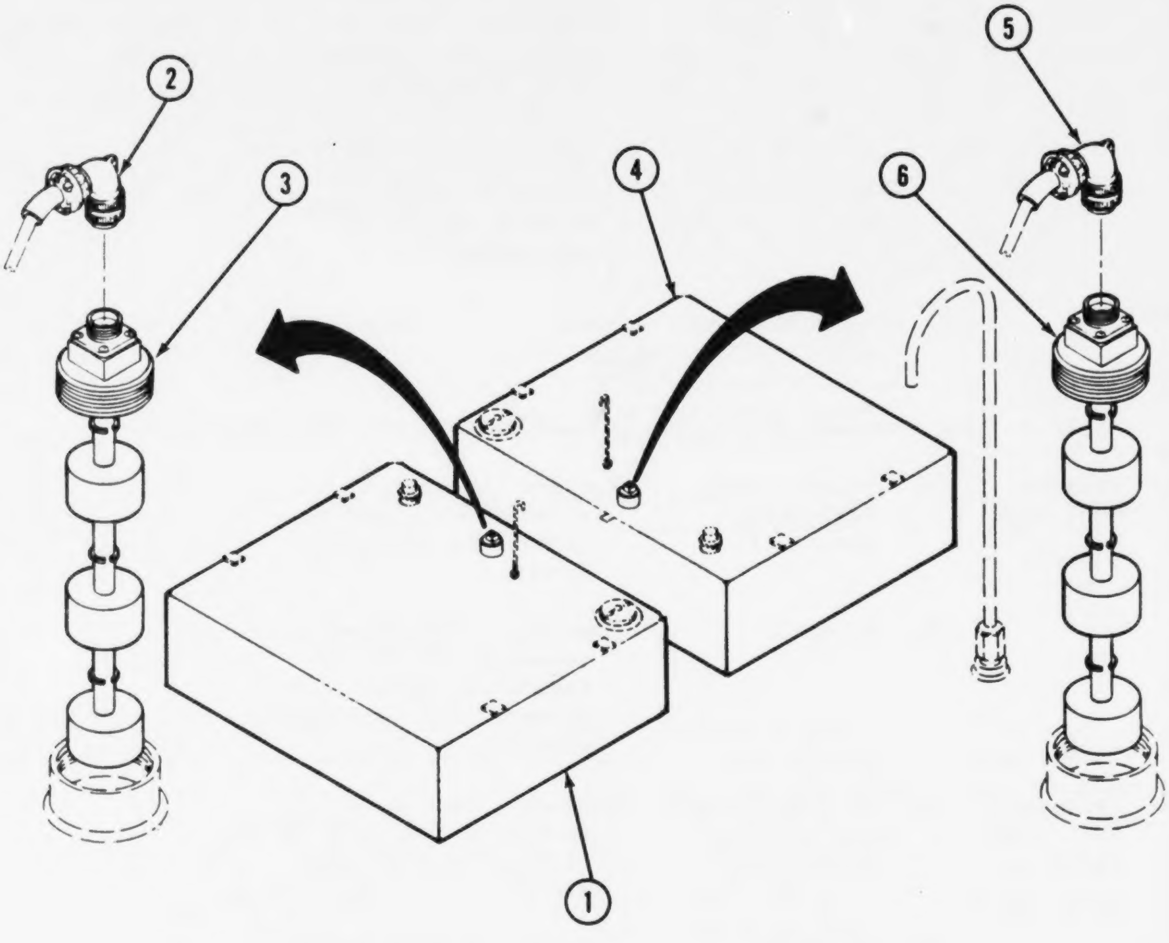
REPLACE

NOTE

Apply sealing compound to threads of each sensor prior to installing.

5. Primary fuel tank (1)	a. Primary tank fuel-level sensor (3)	Replace. Secure to primary fuel tank by tightening with pipe wrench.	
	b. W2 cable	Install. Connect male connector P2 (2) to female connector J2 on primary tank fuel-level sensor.	
6. Secondary fuel tank (4)	a. Secondary tank fuel-level sensor (6)	Replace. Secure to secondary fuel tank by tightening with pipe wrench.	
	b. W4 cable	Install. Connect male connector P4 (5) to female connector J4 on secondary tank fuel-level sensor.	

4-19. FUEL-LEVEL SENSORS - MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1 PRIMARY FUEL TANK
2 CONNECTOR P2
3 PRIMARY TANK FUEL-LEVEL SENSOR
4 SECONDARY FUEL TANK
5 CONNECTOR P4
6 SECONDARY TANK FUEL-LEVEL SENSOR

4-20. FUEL FILTER/WATER SEPARATOR – MAINTENANCE INSTRUCTIONS

This task covers:
- a. Service
- b. Remove
- c. Replace

INITIAL SETUP

Tools and Special Tools

- General mechanic's tool kit: automotive, 5180-00-177-7033
  - 3/4-inch combination box- and open-end wrench
  - 1/2-inch socket wrench socket, 1/2-inch square female drive
  - Reversible socket wrench ratchet, 1/2-inch square drive
  - 9/16-inch combination box- and open-end wrench
  - 9/16-inch open-end wrench
  - 11/16-inch combination box- and open-end wrench
  - 10-inch adjustable wrench

Materials/Parts

- Suitable container to hold 1 quart of fuel
- Sealing compound, item 12, appendix D
- Rags, item 11, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

References

Fuel Shutoff Valves - Maintenance Instructions, paragraph 4-21

Equipment Condition Para	Condition Description
2-9d	Generators shut down.

General Safety Instructions

WARNING

Do not smoke or permit open flames within 50 feet (15.3 meters) of the fuel filter/water separator during service and removal. Do not allow fuel to drain onto the ground. This will create a fire hazard.

LOCATION	ITEM	ACTION	REMARKS
SERVICE			
1. Fuel filter/water separator	a. Fuel shutoff valve (inlet) (1)	Close. Turn valve handle to right and close.	

4-20. FUEL FILTER/WATER SEPARATOR - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	b. Fuel shutoff valve (outlet) (2)	Close. Turn valve handle to right and close.	
	c. Screw and gasket (3), gasket (4), and filter shell assembly (6)	Place suitable container under shell assembly before removing screw and gasket. Using 3/4-inch combination box- and open-end wrench, remove screw and gasket, gasket, and shell assembly from head assembly (19).	
	d. Filter element (5)	Replace. Remove old filter from shell. Clean shell before inserting new filter element and gasket.	
	e. Filter shell assembly (6), gasket (4), and screw and gasket (3)	Replace. Fill shell assembly with clean fuel and secure assembly to head assembly by inserting and tightening screw and gasket using 3/4-inch combination box- and open-end wrench.	
	f. Fuel shutoff valves (2) and (1)	Open. Open both valves by turning to left.	
REMOVE			
2. Fuel filter/ water separator	a. Fuel shutoff valves (1) and (2)	Remove.	See paragraph 4-21.

4-20. FUEL FILTER/WATER SEPARATOR – MAINTENANCE INSTRUCTIONS (CONT)

WARNING

Do not smoke or permit open flames within 50 feet (15.3 meters) of the fuel filter/water separator during service and removal operations. Do not allow fuel to drain onto the ground. This will create a fire hazard.

NOTE

Prior to performing step 2b, place suitable container under fuel filter/water separator to catch fuel.

LOCATION	ITEM	ACTION	REMARKS
	b. Fuel filter/water separator	Drain.	See paragraph 3-4.
	c. Adapter (7)	Remove. Using 11/16-inch open-end wrench, turn adapter to the left and remove.	
	d. Adapter (8)	Remove. Using 11/16-inch open-end wrench, turn adapter to the left and remove.	
	e. Elbow (9)	Remove. Using 10-inch adjustable wrench, turn elbow to left and remove.	
	f. Elbow (10)	Remove. Using 10-inch adjustable wrench, turn elbow to left and remove.	
	g. Adapter (11)	Remove. Using 11/16-inch open-end wrench, turn adapter to the left and remove.	
3. Pallet	Front end plate (12), eight capscrews (13), eight lockwashers (14),	Remove. Using 1/2-inch socket with reversible socket wrench ratchet, remove the capscrews,	

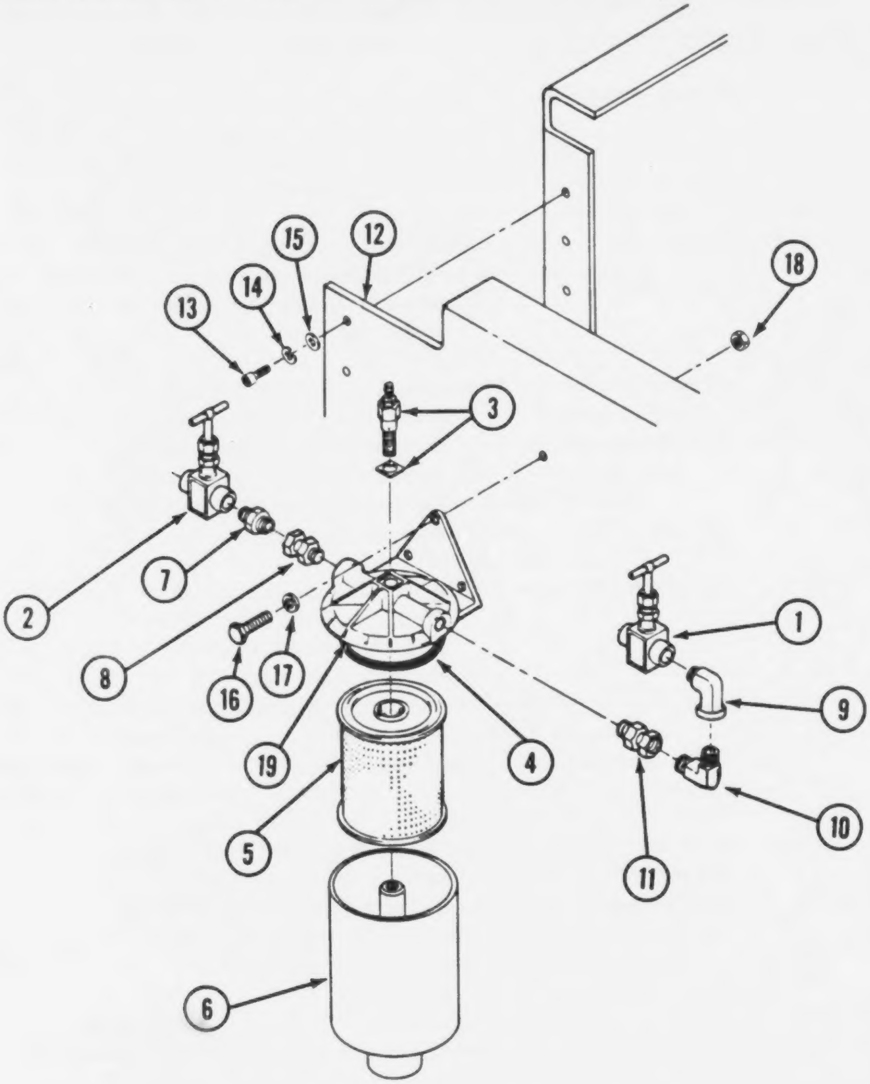
4–20. FUEL FILTER/WATER SEPARATOR – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	and eight flat washers (15)	lockwashers, and flat washers from front end plate. Holding fuel filter/water separator, remove end plate from pallet.	
4. Front end plate	Three capscrews (16), three flat washers (17), three self-locking nuts (18), and fuel filter/ water separator	Remove. Using 9/16-inch combination box- and open-end wrench and 9/16-inch open-end wrench, remove the capscrews, flat washers, self-locking nuts, and fuel filter/ water separator.	
REPLACE			
5. Front end plate	Fuel filter/water separator, three capscrews (16), three flat washers (17), and three self-locking nuts (18)	Replace. Aline mounting holes of separator with front end plate. Insert the capscrews, flat washers, and self-locking nuts. Tighten using 9/16-inch combination box- and open-end wrench, and 9/16-inch open-end wrench.	
6. Pallet	Front end plate (12), eight capscrews (13), eight lockwashers (14), and eight flat washers (15)	Replace. Aline mounting holes of front end plate to pallet. Insert capscrews, lockwashers, and flat washers; tighten using 1/2-inch socket with reversible socket wrench ratchet.	
7. Fuel filter/ water separator	a. Adapter (11)	Replace. Using 11/16-inch combination wrench, attach to fuel filter/water separator and tighten.	

4-20. FUEL FILTER/WATER SEPARATOR – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	b. Elbow (10)	Replace. Using 10-inch adjustable wrench, attach elbow to adapter and tighten.	
	c. Elbow (9)	Replace. Using 10-inch adjustable wrench, attach elbow to adapter and tighten.	
	d. Adapter (8)	Replace. Using 11/16-inch combination box- and open-end wrench, attach adapter to fuel filter/water separator and tighten.	
	e. Adapter (7)	Replace. Using 11/16-inch combination box- and open-end wrench, attach adapter (7) to adapter (8) and tighten.	
	f. Fuel shutoff valves	Replace.	See paragraph 4-21.
	g. Fuel filter/ water separator	Prime. With EPU grounded properly, set MASTER SWITCH to ON and ENGINE CONTROL switch to RUN. Let pump run for 2 minutes.	

4-20. FUEL FILTER/WATER SEPARATOR – MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1	FUEL SHUTOFF VALVE (INLET)
2	FUEL SHUTOFF VALVE (OUTLET)
3	SCREW AND GASKET
4	GASKET
5	FILTER ELEMENT
6	FILTER SHELL ASSEMBLY
7	ADAPTER
8	ADAPTER
9	ELBOW
10	ELBOW
11	ADAPTER
12	FRONT END PLATE
13	CAPSCREW
14	LOCKWASHER
15	FLAT WASHER
16	CAPSCREW
17	FLAT WASHER
18	SELF-LOCKING NUT
19	HEAD ASSEMBLY

4-21. FUEL SHUTOFF VALVES – MAINTENANCE INSTRUCTIONS

This task covers:
a. Remove
b. Replace

INITIAL SETUP

Tools and Special Tools

General mechanic's tool kit:
automotive, 5180-00-177-7033
- 11/16-inch combination box- and open-end wrench
- 11/16-inch open-end wrench
- 7/8-inch combination box- and open-end wrench
- 6-inch adjustable wrench
- 10-inch adjustable wrench

Materials/Parts

Suitable container to hold 1 quart of fuel
Sealing compound, item 12, appendix D
Rags, item 11, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.

General Safety Instructions

WARNING

Do not smoke or permit open flames within 50 feet (15.3 meters) of the fuel filter/water separator during fuel shutoff valve replacement. Do not allow fuel to drain onto the ground. This will create a fire hazard.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Fuel shutoff valve (inlet)	a. Fuel shutoff valve (inlet) (1)	Close. Turn handle to right and close.	

NOTE

Prior to disconnecting fuel inlet line, place suitable container under line to catch fuel.

LOCATION	ITEM	ACTION	REMARKS
	b. Fuel inlet line (2)	Remove. Using 7/8-inch combination box- and open-end wrench to	

4-21. FUEL SHUTOFF VALVES – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		hold adapter (3), use 11/16-inch combination box- and open-end wrench and remove fuel inlet line.	
2. Fuel inlet line	Adapter (3)	Remove. Using 7/8-inch combination box- and open-end wrench, to hold fuel shutoff valve (inlet) (1), remove adapter.	
3. Fuel filter/ water separator	Fuel shutoff valve (inlet) (1)	Loosen. Using adjustable wrench turn elbow (4) and fuel shutoff valve 90°. Using adjustable wrench turn fuel shutoff valve to the left and remove.	

NOTE

Prior to disconnecting fuel outlet line, place suitable container under shutoff valve to catch fuel.

4. Fuel shutoff valve (outlet)	a. Fuel outlet line (5)	Remove. Using 7/8-inch combination box- and open-end wrench to hold adapter, use 11/16-inch combination box- and open-end wrench and remove fuel outlet line.	
	b. Adapter (6)	Remove. Using 7/8-inch combination box- and open-end wrench, remove adapter.	
5. Fuel filter/ water separator	Fuel shutoff valve (outlet) (7)	Remove. Place 11/16-inch combination box- and open-end wrench on adapter (8) located on outlet side of fuel filter/water separator. Remove valve by	

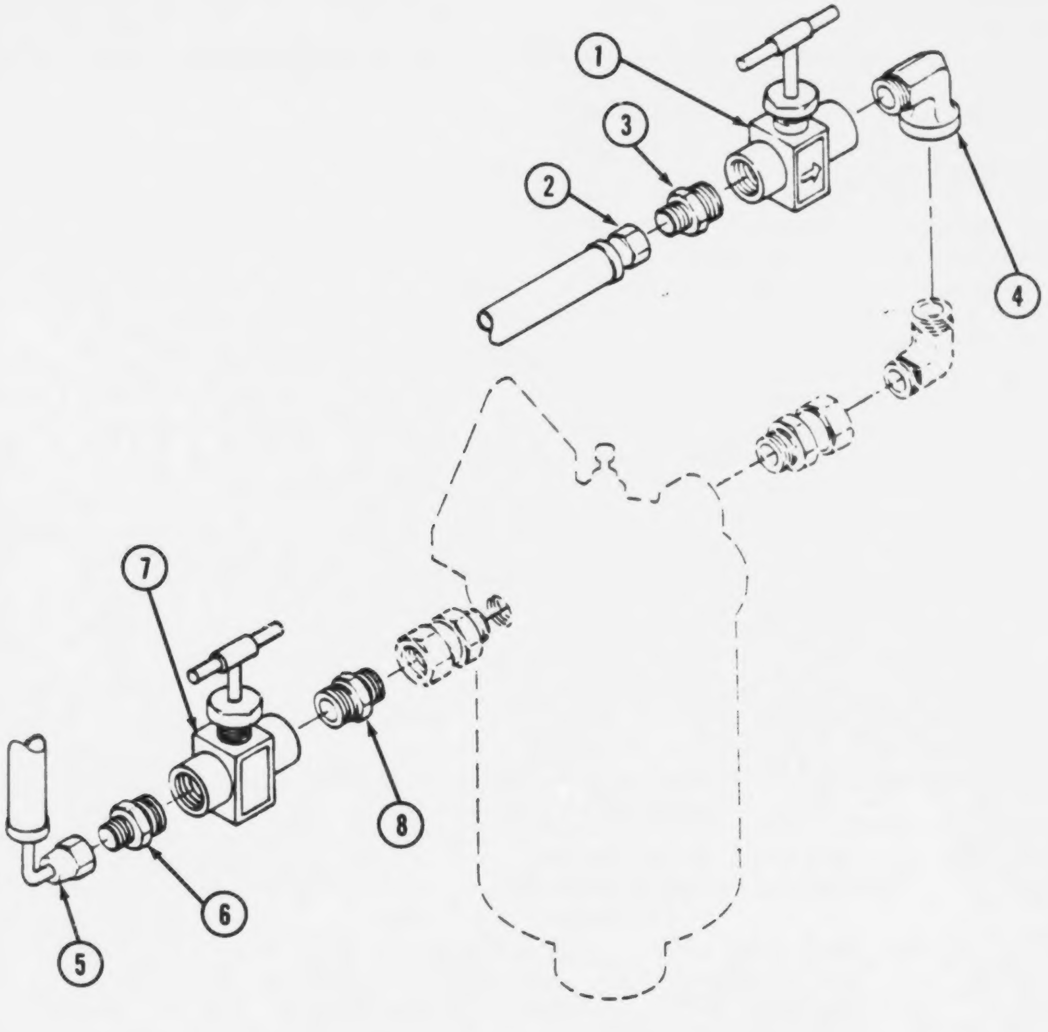
4-21. FUEL SHUTOFF VALVES - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		turning to left. Adjustable wrench may be used to turn valve.	
REPLACE			
6. Fuel filter/ water separator	Fuel shutoff valve (outlet) (7)	Replace. Attach valve to adapter (8) located on outlet side of fuel filter/water separator. Make sure arrow on valve is pointing away from fuel filter/water separator. Place 11/16-inch combination box- and open-end wrench on adapter and hold. Turn valve to right and tighten. Adjustable wrench may be used to turn valve.	
7. Fuel shut-off valve (outlet)	a. Adapter (6)	Replace. Using 7/8-inch combination box- and open-end wrench, attach adapter to fuel shutoff valve (outlet) (7) and tighten.	
	b. Fuel outlet line (5)	Replace. Using 11/16-inch combination box- and open-end wrench, attach fuel outlet line to adapter (6) and tighten.	
8. Fuel filter/ water separator	Fuel shutoff valve (inlet) (1)	Replace. Turn elbow (4) to right 90°. Attach valve to elbow. Make sure arrow on valve is pointing toward elbow. Turn valve to right and tighten. Adjustable wrench may be used to turn valve. Turn elbow to left 90°.	

4-21. FUEL SHUTOFF VALVES - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
9. Fuel inlet line	a. Adapter (3)	Replace. Using 7/8-inch combination box- and open-end wrench, and holding fuel shutoff valve, attach and tighten.	
	b. Fuel inlet line (2)	Replace. Using 11/16-inch combination box- and open-end wrench, tighten inlet line while holding adapter (3) with a 7/8-inch combination box- and open-end wrench.	
	c. Fuel shutoff valve (inlet) (1)	Open. Turn handle to left and open.	

4-21. FUEL SHUTOFF VALVES – MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1	FUEL SHUTOFF VALVE (INLET)
2	FUEL INLET LINE
3	ADAPTER
4	ELBOW
5	FUEL OUTLET LINE
6	ADAPTER
7	FUEL SHUTOFF VALVE (OUTLET)
8	ADAPTER

4-22. FUEL TANK ASSEMBLY COMPONENTS – MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Replace

INITIAL SETUP

Tools and Special Tools

- General mechanic's tool kit: automotive, 5180-00-177-7033
  - 1/4-inch flat-tip screwdriver
  - No. 2 cross-tip screwdriver
  - 3/4-inch combination box- and open-end wrench
  - 15/16-inch combination box and open-end wrench
  - 11/16-inch socket, 1/2-inch square female drive
  - Reversible socket wrench ratchet, 1/2-inch drive
- 18-inch pipe wrench, 5120-00-277-1479

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.

General Safety Instructions

WARNING

Do not smoke or permit open flames within 50 feet (15.3 meters) of the fuel tanks during fuel handling operations. This will create a fire hazard.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Primary fuel tank and/or secondary fuel tank	a. Fuel tank cap and strainer assembly (1), five machine screws (2), five lockwashers (3), five flat washers (4), fuel tank filler neck (5), and gasket (6)	Remove. Unscrew fuel tank cap and remove fuel tank cap and strainer assembly. Using no. 2 cross-tip screwdriver, remove machine screws, lockwashers, and flat washers. Lift fuel tank filler neck out of primary fuel tank and/or secondary fuel tank. Remove gasket.	

4-22. FUEL TANK ASSEMBLY COMPONENTS – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	b. Gasket (7)	Remove. Using 1/4-inch flat-tip screwdriver, remove gasket from fuel tank cap (if necessary).	
	c. Fuel-level sensor (8)	Remove. Using 18-inch pipe wrench, remove fuel-level sensor from primary fuel tank and/or secondary fuel tank.	
	d. Fuel-level gage (9)	Remove. Using 18-inch pipe wrench, remove fuel-level gage from primary fuel tank and/or secondary fuel tank.	
	e. Quick-disconnect insert (10)	Remove. Using 3/4-inch combination box- and open-end wrench, hold pipe nipple (11) secure. Place 15/16-inch combination box- and open-end wrench on quick-disconnect insert and remove.	
2. Quick-disconnect insert	Dust cap (12)	Remove. Pull dust cap with retaining ring off insert.	
3. Primary fuel tank and/or secondary fuel tank	a. Pipe nipple (11)	Remove. Using 3/4-inch combination box- and open-end wrench, remove pipe nipple.	
	b. Pipe plug (13)	Remove. Using 11/16-inch socket with reversible socket wrench ratchet, remove pipe plug.	

4-22. FUEL TANK ASSEMBLY COMPONENTS – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS

REPLACE

CAUTION

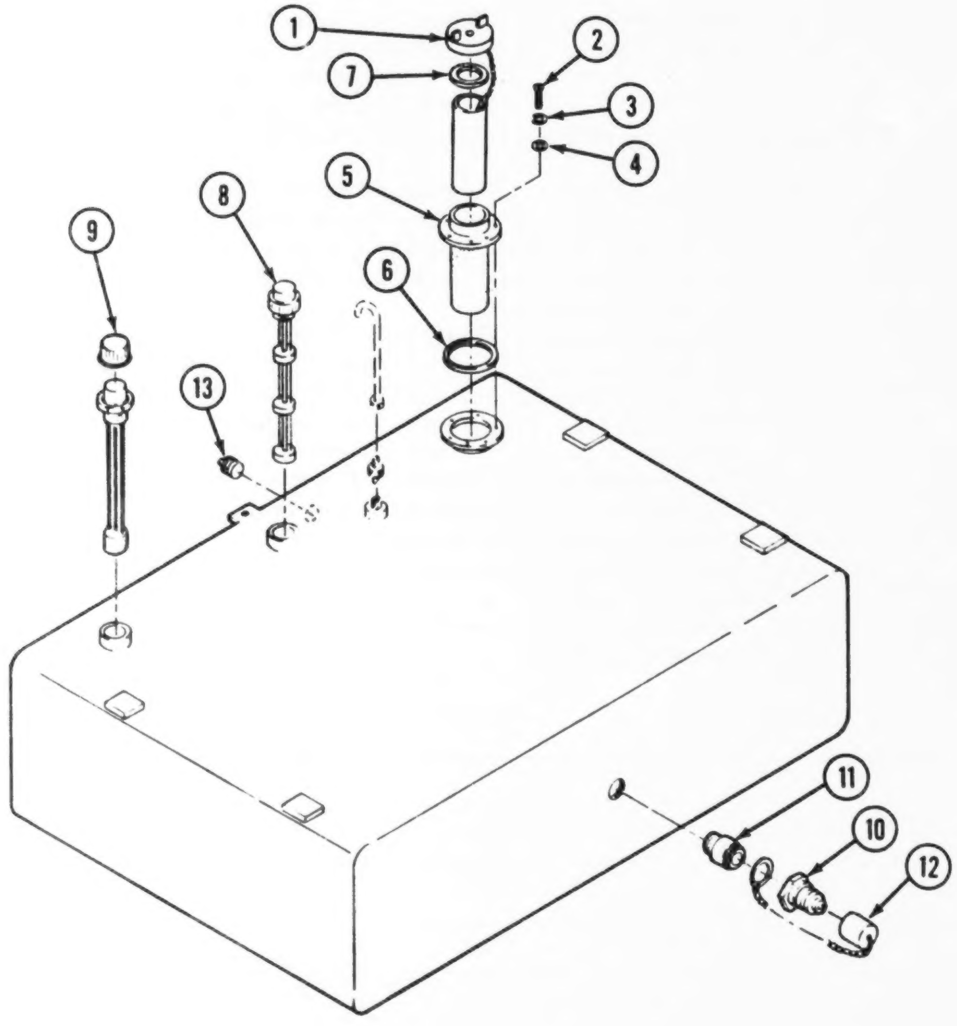
Do not overtighten fuel lines and fittings; overtightening may damage fittings.

LOCATION	ITEM	ACTION	REMARKS
4. Primary fuel tank and/or secondary fuel tank	a. Pipe plug (13)	Replace. Insert pipe plug into side of primary fuel tank and/or secondary fuel tank and tighten using 11/16-inch socket with reversible socket wrench ratchet.	
	b. Pipe nipple (11)	Replace. Insert pipe nipple into primary fuel tank and/or secondary fuel tank, and tighten using 3/4-inch combination box- and open-end wrench.	
5. Quick-disconnect insert	Dust cap (12)	Replace. Slide retaining ring and dust cap over end of quick-disconnect insert (10)	
6. Primary fuel tank and/or secondary fuel tank	a. Quick-disconnect insert (10)	Replace. Attach to pipe nipple (11) and tighten using 3/4-inch combination box- and open-end wrench and 15/16-inch combination box- and open-end wrench.	
	b. Fuel-level gage (9)	Replace. Insert into primary fuel tank and/or secondary fuel tank, and tighten using 18-inch pipe wrench.	

4-22. FUEL TANK ASSEMBLY COMPONENTS - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	c. Fuel-level sensor (8)	Replace. Insert into primary fuel tank and/or secondary fuel tank, and tighten using 18-inch pipe wrench.	
	d. Gasket (7)	Replace. Using 1/4-inch flat-tip screwdriver, replace gasket on fuel tank cap (if necessary).	
	e. Fuel tank filler neck (5), gasket (6), five flat washers (4), five lockwashers (3), five machine screws (2), and fuel tank cap and strainer assembly (1)	Replace. Place gasket on fuel tank filler neck. Insert fuel tank filler neck into primary fuel tank or secondary fuel tank and secure using machine screws, lockwashers, and flat washers. Tighten using no. 2 cross-tip screwdriver. Install cap and strainer assembly in fuel tank filler neck and tighten.	

4-22. FUEL TANK ASSEMBLY COMPONENTS – MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1	FUEL TANK CAP AND STRAINER ASSEMBLY
2	MACHINE SCREW
3	LOCKWASHER
4	FLAT WASHER
5	FUEL TANK FILLER NECK
6	GASKET
7	GASKET
8	FUEL-LEVEL SENSOR
9	FUEL-LEVEL GAGE
10	QUICK-DISCONNECT INSERT
11	PIPE NIPPLE
12	DUST CAP
13	PIPE PLUG

4-23. SOLENOID VALVE ASSEMBLY – MAINTENANCE INSTRUCTIONS

This task covers:
a. Remove
b. Test
c. Replace

INITIAL SETUP

Tools and Special Tools

General mechanic's tool kit:
automotive, 5180-00-177-7033
- 5/8-inch combination box- and open-end wrench
- 11/16-inch combination box- and open-end wrench
- 9/16-inch combination box- and open-end wrench
- 9/16-inch open-end wrench

Materials/Parts

Suitable container to hold 1 quart of fuel
Sealing compound, item 12, appendix D
Rags, item 11, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
4-18	Walkway removed.

General Safety Instructions

WARNING

Do not smoke or permit open flames within 50 feet (15.3 meters) of the EPU during replacement of solenoid valve assembly. Do not allow fuel to drain onto the ground. This will create a fire hazard.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Solenoid valve assembly	a. W3 cable (1)	Disconnect male connector P3 from female connector J3 on solenoid valve assembly.	

4-23. SOLENOID VALVE ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS

WARNING

Do not smoke or permit open flames within 50 feet (15.3 meters) of the EPU during replacement of solenoid valve assembly. Do not allow fuel to drain onto the ground. This will create a fire hazard.

NOTE

Place suitable container under the two fuel lines going into the solenoid to catch fuel leakage.

LOCATION	ITEM	ACTION	REMARKS
	b. Top fuel line (2) and bottom fuel line (3)	Remove. Place 5/8-inch combination box- and open-end wrench on adapter (4) and hold. Using 11/16-inch combination box- and open-end wrench, remove line. Repeat this step for bottom line.	
	c. Fuel filter/ water separator fuel line (5)	Place 5/8-inch combination box- and open-end wrench on elbow (6) and hold. Using 11/16-inch combination box- and open-end wrench, remove fuel line.	
	d. Two capscrews (7), two self-locking nuts (8), and solenoid valve assembly (9)	Remove. Using 9/16-inch combination box- and open-end wrench, and 9/16-inch open-end wrench, remove capscrews, self-locking nuts, and solenoid valve assembly.	
	e. Two adapters (4)	Remove. Using 5/8-inch combination box- and open-end wrench, remove adapters.	

4-23. SOLENOID VALVE ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	f. Elbow (6)	Remove. Using 9/16-inch combination box- and open-end wrench, remove elbow.	
TEST			
2. Pallet	Primary tank fuel-level sensor	a. Remove.	See paragraph 4-19.
		b. Reconnect male connector P2 to female connector J2 on primary tank fuel-level sensor.	
3. Solenoid valve assembly	a. W3 cable	Connect male connector P3 to female connector J3 on solenoid valve assembly. Set MASTER SWITCH to ON.	
	b. Solenoid valve assembly	Using a suitable air source, blow (approximately 10 psi) air through opening in solenoid valve assembly where elbow (6) is attached. Move float on primary tank fuel-level sensor until contacts touch. Monitor air flow out of holes where secondary tank fuel line (top line) (2) and primary tank fuel line (bottom line) (3) are attached to solenoid valve assembly. When contacts on primary tank fuel-level sensor touch, flow of air should switch from one hole to other. Set MASTER SWITCH to OFF.	

4-23. SOLENOID VALVE ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
4. Pallet	Primary tank fuel-level sensor	Replace.	See paragraph 4-19.
REPLACE			
5. Solenoid valve assembly	a. Elbow (6)	Connect. Using 9/16-inch combination box- and open-end wrench, install and tighten by turning to right.	Do not over-tighten.
	b. Two adapters (4)	Connect. Using 5/8-inch combination box- and open-end wrench, install adapters. Tighten by turning to the right.	Do not over-tighten.
	c. Two capscrews (7), two self-locking nuts (8), and solenoid valve assembly (9)	Install. Aline mounting bracket holes with pallet frame and insert capscrews. Using 9/16-inch combination box- and open-end wrench, and 9/16-inch open-end wrench, tighten.	Do not over-tighten.
	d. Fuel filter/water separator fuel line (5)	Connect. Attach line to elbow in back of solenoid valve assembly. Place 9/16-inch combination box- and open-end wrench on adapter and hold. Using 11/16-inch combination box- and open-end wrench, tighten.	Do not over-tighten.

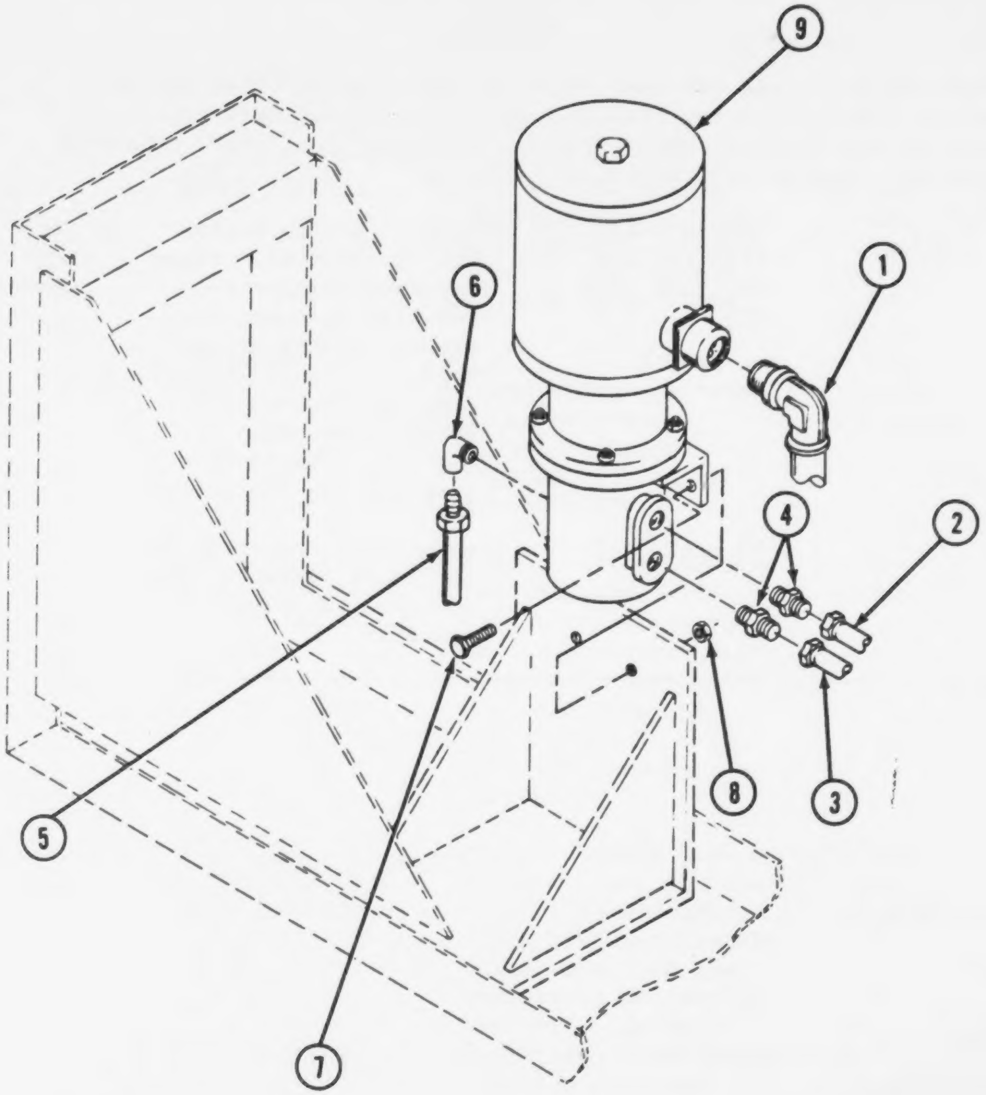
4-23. SOLENOID VALVE ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT)

CAUTION

When replacing the two fuel lines on the solenoid valve assembly, verify that the bottom line is coming from the primary fuel tank and the top line is coming from the secondary fuel tank, otherwise equipment damage may result.

LOCATION	ITEM	ACTION	REMARKS
	e. Bottom fuel line (3) and top fuel line (2)	Connect. Attach bottom line to adapter. Place 5/8-inch combination box- and open-end wrench on adapter and hold. Using 11/16-inch combination box- and open-end wrench, tighten. Repeat this step for top fuel line.	Do not over-tighten.
	f. W3 cable (1)	Connect male connector P3 to female connector J3 on solenoid valve assembly.	

4-23. SOLENOID VALVE ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1 W3 CABLE
2 SECONDARY TANK FUEL LINE (TOP LINE)
3 PRIMARY TANK FUEL LINE (BOTTOM LINE)
4 ADAPTERS
5 FUEL FILTER/WATER SEPARATOR FUEL LINE
6 ELBOW
7 CAPSCREW
8 SELF-LOCKING NUT
9 SOLENOID VALVE ASSEMBLY

4-24. FUEL CHECK VALVE ASSEMBLY – MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Test
- c. Replace

INITIAL SETUP

Tools and Special Tools

- General mechanic's tool kit: automotive, 5180-00-177-7033
  - 13/16-inch combination box- and open-end wrench
  - 3/8-inch combination box- and open-end wrench
  - 5/8-inch combination box- and open-end wrench
  - 10-inch adjustable wrench

Materials/Parts

- Suitable container to hold 1 quart of fuel
- Sealing compound, item 12, appendix D
- Rags, item 11, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
4-18	Walkway removed.

General Safety Instructions

WARNING

Do not smoke or permit open flames within 50 feet (15.3 meters) of EPU during replacement operations. Do not allow fuel to drain into the pallet frame. This will create a fire hazard.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Generator set	Hose(s) (1)	Disconnect. Use 5/8-inch combination box- and open-end wrench.	
2. Fuel check valve(s)	a. Straight reducer tube(s) (2) and preformed packing(s) (3)	Remove. Using 13/16-inch combination box- and open-end wrench, remove.	

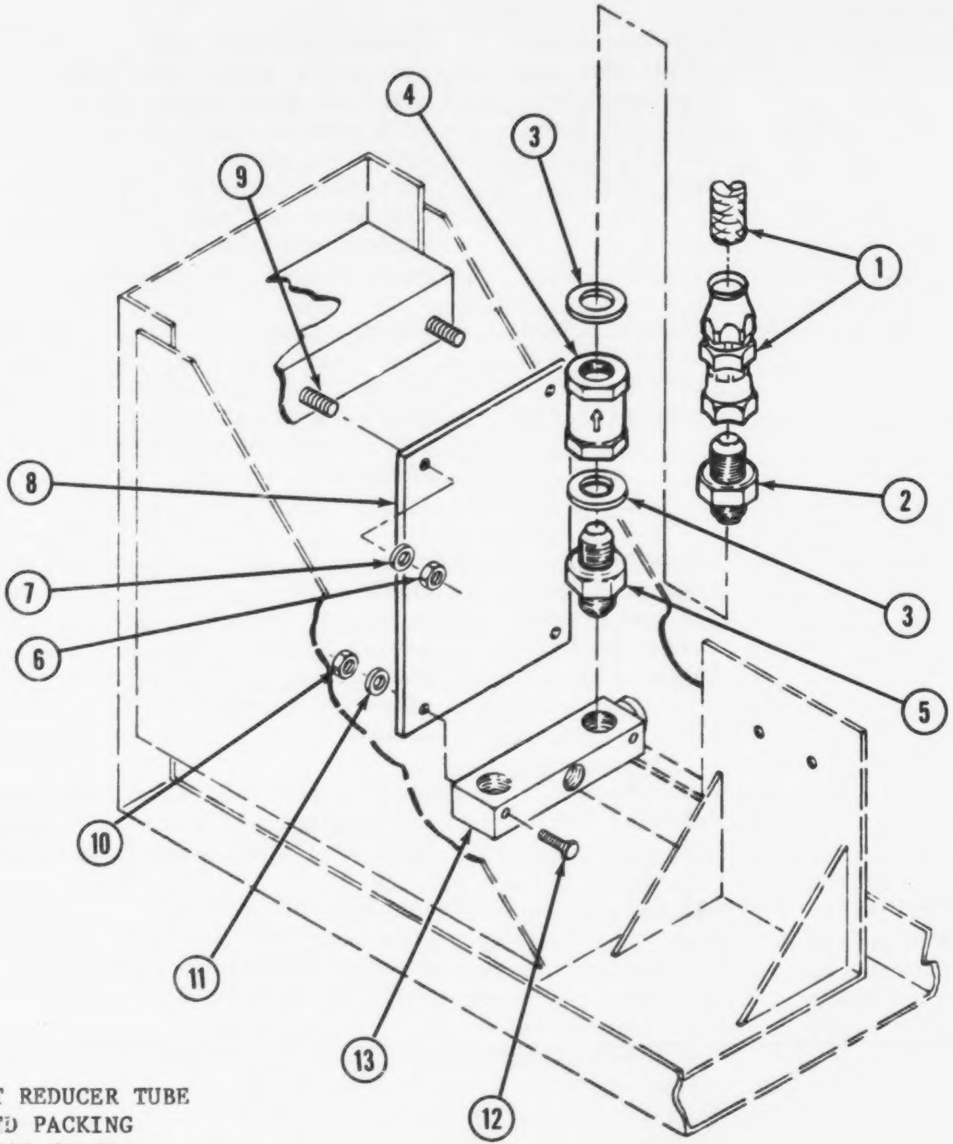
4-24. FUEL CHECK VALVE ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	b. Fuel check valve(s) (4)	Remove. Using 10-inch adjustable wrench and 13/16-inch combination box- and open-end wrench, remove check valve.	
	c. Straight adapter(s) (5) and preformed packing(s) (3)	Remove. Using 13/16-inch combination box- and open-end wrench, remove.	
	d. Two self-locking nuts (6), two flat washers (7), manifold mount plate (8), two self-locking nuts (10), two flat washers (11), two manifold bolts (12), and manifold (13)	Remove. Using 3/8-inch combination box- and open-end wrench, remove self-locking nuts, flat washers, and manifold mount plate from self-clinching studs (9). Using 3/8-inch combination box- and open-end wrench, remove self-locking nuts, flat washers, manifold bolts and manifold.	
TEST			
3. Fuel check valves	Fuel check valves (4)	Test. Using a suitable air source, blow (approximately 10 psi) air through fuel check valves in direction of arrows. Air flow should be unobstructed. Blow air through fuel check valves in direction opposite from that of arrows; no air should pass through.	If air does not flow correctly during test, replace fuel check valves (4).
REPLACE			
4. Fuel check valve(s)	a. Manifold (13), two manifold bolts (12), two flat washers (11), two self-locking nuts (10),	Replace. Replace manifold self-locking nuts, flat washers, and manifold bolts. Tighten using 3/8-inch	

4-24. FUEL CHECK VALVE ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	manifold mount plate (8), two flat washers (7), and two self-locking nuts (6).	combination box- and open-end wrench. Replace manifold mount plate and flat washers onto self-clinching studs (9). Using 3/8-inch combination box- and open-end wrench, replace self-locking nuts and secure.	
	b. Straight adapter(s) (5) and preformed packing(s) (3)	Replace. Secure to fuel check valve(s) (4). Using 13/16-inch combination box- and open-end wrench and 10-inch adjustable wrench, secure.	Do not overtighten.
	c. Straight reducer tube(s) (2) and pre--formed packing(s) (3)	Replace. Secure to fuel check valve(s) (4). Using 13/16-inch combination box- and open-end wrench and 10-inch adjustable wrench, secure.	Do not overtighten.
	d. Fuel check valve(s) (4)	Insert in manifold block and tighten using 10-inch adjustable wrench.	Do not overtighten.
5. Generator set	Hose(s) (1)	Using 5/8-inch combination box- and open-end wrench, connect to fuel check valve(s).	

4-24. FUEL CHECK VALVE ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1 HOSE
2 STRAIGHT REDUCER TUBE
3 PREFORMED PACKING
4 FUEL CHECK VALVE
5 STRAIGHT ADAPTER
6 SELF-LOCKING NUT
7 FLAT WASHER
8 MANIFOLD MOUNT PLATE
9 SELF-CLINCHING STUD
10 SELF-LOCKING NUT
11 FLAT WASHER
12 MANIFOLD BOLT
13 MANIFOLD

4-25. INTERNAL FUEL LINES AND FITTINGS – MAINTENANCE INSTRUCTIONS

This task covers:

a. Remove
b. Replace
c. Repair

INITIAL SETUP

Tools and Special Tools

- General mechanic's tool kit: automotive, 5180-00-177-7033
  - 18-inch pipe wrench
  - 10-inch adjustable wrench
  - 11/16-inch combination box- and open-end wrench
  - 3/4-inch combination box- and open-end wrench
  - 7/8-inch open-end wrench
  - 3/8-inch combination box- and open-end wrench
  - 11/16-inch open-end wrench
- Quick-disconnect fuel drain hose

Materials/Parts

- Suitable containers to hold 200 gallons of fuel
- Sealing compound, item 12, appendix D
- Rags, item 11, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
4-18	Walkway removed.
4-23	Solenoid valve assembly removed.

General Safety Instructions

WARNING

Do not smoke or permit open flames within 50 feet (15.3 meters) of the EPU during fuel handling operations. Do not allow fuel to drain onto the ground. This will create a fire hazard.

4-25. INTERNAL FUEL LINES AND FITTINGS – MAINTENANCE INSTRUCTIONS (CONT)

NOTE

- Steps 2 and 3 pertain to the removal of the fuel hose, including fittings, that runs between the fuel valve gate and the secondary fuel tank.
- Step 4 pertains to the removal of the fuel hose, including fittings, that runs between the solenoid valve assembly and the fuel tank.
- Step 5 pertains to the removal of the fuel filter/water separator inlet line and fittings at the solenoid valve assembly.
- Step 6 pertains to the removal of the fuel filter/water separator inlet and outlet lines and fittings at the fuel filter/water separator.
- Step 7 pertains to the removal of the fuel filter/water separator outlet line and fittings at the manifold.
- Step 9 pertains to the replacement of the fuel filter/water separator outlet line and fittings at the manifold.
- Step 10 pertains to the replacement of the fuel filter/water separator inlet and outlet lines.
- Step 12 pertains to the replacement of the fuel hose, including fittings, that runs between the solenoid valve assembly and the fuel tank.
- Step 13 pertains to the replacement of the fuel hose, including fittings, that runs between the fuel valve gate and the secondary fuel tank.

REMOVE

LOCATION	ITEM	ACTION	REMARKS
1. Pallet frame	a. Fuel valve gate (1)	Open valve gate by turning tee handle (2) to left.	This allows fuel flow from secondary tank.
	b. Fuel tank (primary) (3)	Place suitable storage containers close to tank.	Tank holds 100 gallons.

4-25. INTERNAL FUEL LINES AND FITTINGS - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION		ITEM	ACTION	REMARKS
	c.	Quick-disconnect insert (4)	Connect quick-disconnect fuel drain hose, and drain fuel from tanks. Remove drain hose.	Place end of quick-disconnect fuel drain hose into storage containers prior to opening valves.

NOTE

Steps 2 and 3 pertain to the removal of the fuel hose, including fittings, that runs between the fuel valve gate and the secondary fuel tank.

LOCATION		ITEM	ACTION	REMARKS
2. Fuel valve gate	a.	Fuel hose (5) and socketless fitting (6)	Remove. Place 18-inch pipe wrench on pipe elbow and remove. Place 10-inch adjustable wrench on socketless fitting and remove.	
	b.	Pipe elbow (7)	Remove. Place 18-inch pipe wrench on fuel valve gate (1) and hold. Place 10-inch adjustable wrench on elbow and remove.	
3. Pallet	a.	Fuel hose (5) and socketless fitting (8)	Remove. Place 18-inch pipe wrench on straight adapter (9) and hold. Place 10-inch adjustable wrench on socketless fitting and remove.	
	b.	Straight adapter (9)	Remove. Place 18-inch pipe wrench on pipe elbow (10) and hold. Place 10-inch adjustable wrench on straight adapter and remove.	

4-25. INTERNAL FUEL LINES AND FITTINGS – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	c. Pipe elbow (10)	Remove. Place 18-inch pipe wrench on pipe elbow and remove.	

Step 4 pertains to the removal of the fuel hose, including fittings, that runs between the solenoid valve assembly and the fuel tank.

LOCATION	ITEM	ACTION	REMARKS
4. Fuel tank	a. Socketless fitting (11) and fuel hoses (12)	Remove. Place 11/16-inch combination box- and open-end wrench on socketless fitting and remove with fuel hose attached.	
	b. Socketless fittings (13) and fuel hoses (12)	Remove. Place 11/16-inch combination box- and open-end wrench on socketless fittings and remove with fuel hoses attached.	
	c. Pipe elbows (14)	Remove. Place 3/4-inch combination box- and open-end wrench on pipe elbow and remove.	

NOTE

Step 5 pertains to the removal of the fuel filter/water separator inlet line and fittings at the solenoid valve assembly.

LOCATION	ITEM	ACTION	REMARKS
5. Solenoid valve assembly	Socketless fitting (15), and fuel filter/water separator (inlet) line (16)	Remove. Place 11/16-inch combination box- and open-end wrench on socketless fitting and remove with fuel filter/water separator (inlet) line attached from elbow.	

4-25. INTERNAL FUEL LINES AND FITTINGS - MAINTENANCE INSTRUCTIONS (CONT)

NOTE

Step 6 pertains to the removal of the fuel filter/water separator inlet and outlet lines and fittings at the fuel filter/water separator.

LOCATION	ITEM	ACTION	REMARKS
6. Fuel filter/water separator	a. Socketless fitting (17) and fuel filter/water separator (inlet) line (16)	Remove. Place 7/8-inch open-end wrench on adapter and hold. Place 11/16-inch combination box- and open-end wrench on socketless fitting and remove with fuel filter/water separator (inlet) line attached.	
	b. Socketless fitting (18) and fuel filter/water separator (outlet) line (19)	Remove. Place 7/8-inch open-end wrench on adapter and hold. Place 11/16-inch combination box- and open-end wrench on socketless fitting and remove with fuel filter/water separator (outlet) line attached.	

NOTE

Step 7 pertains to the removal of the fuel filter/water separator outlet line and fittings at the manifold.

LOCATION	ITEM	ACTION	REMARKS
7. Fuel check valve manifold	a. Socketless fitting (20) and fuel filter/water separator (outlet) line (19)	Remove. Place 11/16-inch combination box- and open-end wrench on socketless fitting and remove with fuel filter/water separator (outlet) line attached.	
	b. Elbow (21)	Remove. Using 10-inch adjustable wrench, turn elbow to left and remove.	

4-25. INTERNAL FUEL LINES AND FITTINGS – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
8. Fuel tank assembly	Nut (22), machine screw (23), and cushioned clamp (24)	Remove. Place 3/8-inch combination box- and open-end wrench on self-locking nut and hold. Place no. 2 cross-tip screwdriver on machine screw and remove.	

REPLACE

NOTE

Step 9 pertains to the replacement of the fuel filter/water separator outlet line and fittings at the manifold.

9. Fuel check valve manifold	a. Elbow (21)	Replace. Using 10-inch adjustable wrench, attach elbow to manifold and tighten.	
	b. Socketless fitting (20) and fuel filter/water separator (outlet) line (19)	Replace. Attach socketless fitting to elbow, (21) and tighten using 11/16-inch combination box- and open-end wrench.	

NOTE

Step 10 pertains to the replacement of the fuel filter/water separator inlet and outlet lines.

10. Fuel filter/water separator	a. Socketless fitting (18) and fuel filter/water separator (outlet) line (19)	Replace. Attach socketless fitting with fuel filter/water separator (outlet) line attached to adapter, and tighten using 11/16-inch open-end wrench and 11/16-inch combination box- and open-end wrench.	
	b. Socketless fitting (17), fuel filter/water	Replace. Attach socketless fitting (17) with fuel filter/water	

4-25. INTERNAL FUEL LINES AND FITTINGS – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	separator (inlet) line (16), and socketless fitting (15)	separator (inlet) line attached to (inlet) adapter and tighten using 11/16-inch combination box- and open-end wrench. Attach other socketless fitting (15) to solenoid valve assembly, and tighten using 11/16-inch combination box- and open-end wrench.	
11. Fuel tank assembly	Cushioned clamps (24), machine screw (23), and nut (22)	Replace. Position clamps over fuel tank bracket and aline holes. Insert screw and attach nut. Tighten using 3/8-inch combination box- and open-end wrench, and no. 2 cross-tip screwdriver.	

NOTE

Step 12 pertains to the replacement of the fuel hose, including fittings, that runs between the solenoid valve assembly and the fuel tank.

12. Fuel tank	a. Pipe elbows (14)	Replace. Attach elbows to fuel tank, and tighten using 3/4-inch combination box- and open-end wrench.	

NOTE

When replacing the two socketless fittings with fuel hoses attached to the solenoid valve, verify that the bottom line is coming from the primary tank, and the top line is coming from the secondary tank.

	b. Socketless fittings (13) and fuel hoses (12)	Replace. Using a 11/16-inch combination box- and open-end wrench, attach socketless fittings with fuel hoses attached to solenoid valve and tighten.	

4-25. INTERNAL FUEL LINES AND FITTINGS - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	c. Socketless fittings (11) and fuel hoses (12)	Replace. Using a 11/16-inch combination box- and open-end wrench, attach socketless fitting with fuel hoses attached to pipe elbow and tighten.	

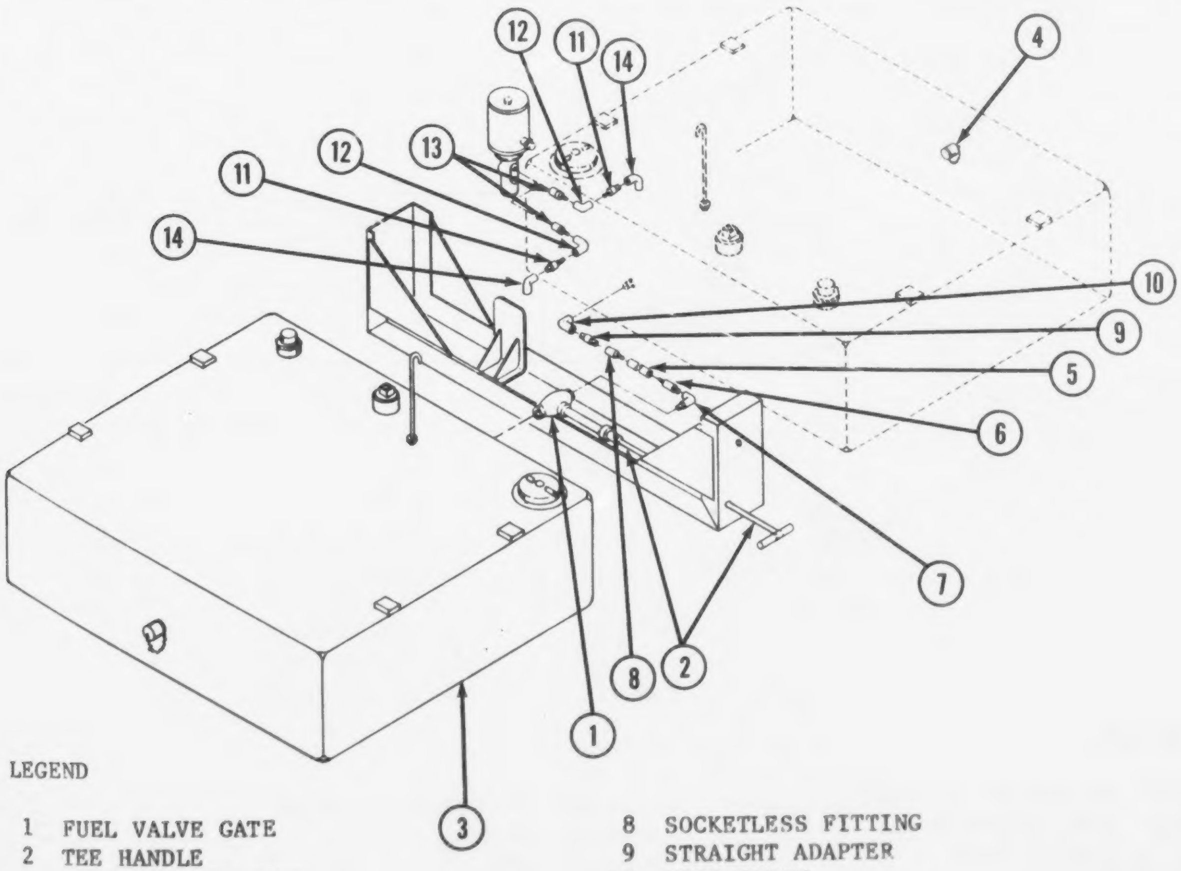
NOTE

Step 13 pertains to the replacement of the fuel hose, including fittings, that runs between the fuel valve gate and the secondary fuel tank.

13. Pallet	a. Pipe elbow (10)	Replace. Attach to secondary fuel tank, and tighten using 10-inch adjustable wrench and 18-inch pipe wrench.	
	b. Straight adapter (9), socketless fitting (8), and fuel hose (5)	Replace. Attach to pipe elbow (10), and tighten using 10-inch adjustable wrench and 18-inch pipe wrench. Attach socketless fitting with fuel hose attached to adapter using same wrenches.	
	c. Pipe elbow (7)	Replace. Attach to fuel valve gate (1), and tighten using 10-inch adjustable wrench and 18-inch pipe wrench.	
	d. Socketless fitting (6) and fuel hose (5)	Replace. Attach socketless fitting with fuel hose attached to pipe elbow (7) and tighten using 10-inch adjustable wrench and 18-inch pipe wrench.	

4-25. INTERNAL FUEL LINES AND FITTINGS – MAINTENANCE INSTRUCTIONS (CONT)

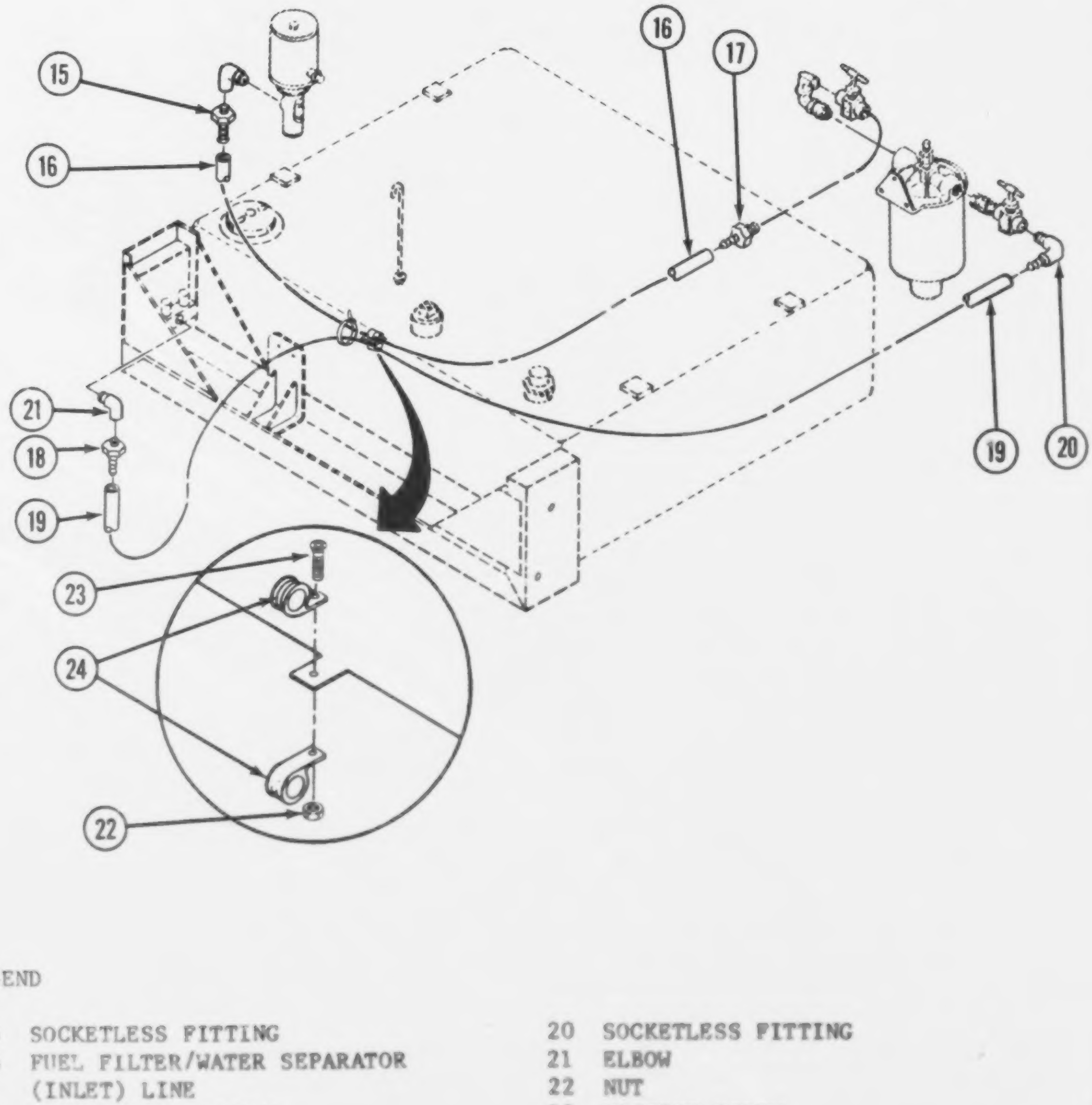
LOCATION	ITEM	ACTION	REMARKS
REPAIR			
14. Pallet	Fuel lines	Repair. Using machinist's steel rule, measure hose length. Using pocketknife, cut correct length of hose. Lubricate socketless fittings and slide into hose. After installing hose, inspect for leakage.	



LEGEND

1 FUEL VALVE GATE
2 TEE HANDLE
3 PRIMARY FUEL TANK
4 QUICK-DISCONNECT INSERT
5 FUEL HOSE
6 SOCKETLESS FITTING
7 PIPE ELBOW
8 SOCKETLESS FITTING
9 STRAIGHT ADAPTER
10 PIPE ELBOW
11 SOCKETLESS FITTING
12 FUEL HOSE
13 SOCKETLESS FITTING
14 PIPE ELBOWS

4-25. INTERNAL FUEL LINES AND FITTINGS - MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

15	SOCKETLESS FITTING	20	SOCKETLESS FITTING
16	FUEL FILTER/WATER SEPARATOR (INLET) LINE	21	ELBOW
17	SOCKETLESS FITTING	22	NUT
18	SOCKETLESS FITTING	23	MACHINE SCREW
19	FUEL FILTER/WATER SEPARATOR (OUTLET) LINE	24	CUSHIONED CLAMP

4-26. TRAILER ASSEMBLY – MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Replace

INITIAL SETUP

Tools and Special Tools

- General mechanic's tool kit: automotive, 5180-00-177-7033
  - 1/2-inch socket, 1/2-inch square female drive
  - 3/4-inch socket, 1/2-inch square female drive
  - Reversible socket wrench ratchet, 1/2-inch drive
  - No. 2 cross-tip screwdriver
  - 9/16-inch socket, 1/2-inch square female drive
  - 6-inch adjustable wrench
  - 3/4-inch combination box- and open-end wrench
  - 9/16-inch combination box- and open-end wrench
  - 1/2-inch combination box- and open-end wrench

Personnel Required

Two turbine engine driven generator repairers, MOS 52F
One EPU operator

Equipment Condition Para	Condition Description
4-17	Pallet removed.

References

M353 3½-Ton Trailer - Maintenance Instructions, TM 9-2330-247-14

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Center tube support	Eight capscrews (1), 16 flat washers (2), 8 self-locking nuts, and center tube suports (4)	Remove. Using 3/4-inch socket with reversible ratchet and 3/4-inch combination box- and open-end wrench, remove capscrews, flat washers, and self-locking nuts. Lift off front center support. Repeat to remove other two center supports.	

4-26. TRAILER ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
2. Walkway grating	Ground wire (5), four screws (6), and strap assemblies (7)	Remove. Using a no. 2 cross-tip screwdriver, remove screws and strap assemblies.	
3. Left- and right-hand supports	Four capscrews (8), four flat washers (9), four self-locking nuts (10), and walkway grating (11)	Remove. Using 9/16-inch socket with reversible ratchet, remove capscrews, flat washers, and nuts. Lift off walkway grating.	
4. Storage tray	Four screws (12), four flat washers (13), four self-locking nuts (14), and two strap assemblies (15)	Remove. Using no. 2 cross-tip screwdriver and 6-inch adjustable wrench, remove screws, flat washers, self-locking nuts, and strap assemblies.	
5. Trailer	Six capscrews (16), six flat washers (17), six self-locking nuts (18), and storage tray (19)	Remove. Using 3/4-inch socket with reversible ratchet, remove capscrews, flat washers, and self-locking nuts. Lift out storage tray.	If self-locking nut (18) turns, a second person must hold the nut, using a 3/4-inch combination box- and open-end wrench.
6. Front channel brace	Eight capscrews (20), 16 flat washers (21), 8 self-locking nuts (22), and front channel brace (23)	Remove. Using 1/2-inch socket with reversible ratchet, and 1/2-inch combination box- and and open-end wrench, remove capscrews, flat washers, and self-locking nuts. Lift off front channel brace.	

4-26. TRAILER ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
7. Rear of trailer	a. Four capscrews (24), four flat washers (25), hinge pin assemblies (26), and (27), two flat washers (28), and tailgate (29)	Remove. With one person holding tailgate, remove left- and right-hand hinge pin assemblies using 9/16-inch socket with reversible ratchet.	Tailgate hooks should remain connected until pin assemblies are removed.
	b. Two hook and chain assemblies (30), two self-locking nuts (31), and two flat washers (32)	Remove. Using 9/16-inch combination box- and open-end wrench, remove self-locking nuts, flat washers, and two hook and chain assemblies.	
8. Supports	Four capscrews (33), eight flat washers (34), four self-locking nuts (35), and support (36)	Remove. Using 3/4-inch socket with reversible ratchet and 3/4-inch combination box- and open-end wrench, remove capscrews, flat washers, and self-locking nuts. Lift off support. Repeat this step to remove the other support.	
9. Curbside/ roadside trailer	a. Nine capscrews (37), 18 flat washers (38), 9 self-locking nuts (39), and curbside step (40), or roadside step (41)	Remove. Using 9/16-inch socket with reversible ratchet, remove capscrews, flat washers, and self-locking nuts. Lift front curbside step off. Repeat this step for roadside step.	
	b. Three machine screws (42), three cushioned clamps (43),	Remove. Using 6-inch adjustable wrench and no. 2 cross-tip screwdriver, remove machine	

4–26. TRAILER ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	three flat washers (44), three self-locking nuts (45), and ground wire assembly (46)	screws, flat washers, cushioned clamps, self-locking nuts, and remove ground wire assembly.	
	c. Two capscrews (47), four flat washers (48), two self-locking nuts (49), and support bracket (50)	Remove. With one person holding support bracket, using 9/16-inch socket with reversible ratchet, remove capscrews, flat washers, and nuts, and remove support bracket.	
10. Front roadside of trailer	Three plain nuts (51), two lockwashers (52), four electrical flat washers (53), ground wire (54), wingnut (55), and ground stud (56)	Remove. Using 9/16-inch open-end wrench and 9/16-inch combination box- and open-end wrench, remove plain nuts, lockwashers, electrical flat washers, ground wire, wingnut, and ground stud.	
11. Trailer fenders	Four capscrews (57), eight flat washers (58), four self-locking nuts (59), and two fender brackets (60)	Remove. Using 9/16-inch socket with reversible ratchet and 9/16-inch combination box- and open-end wrench, remove capscrews, flat washers, and self-locking nuts. Lift off fender bracket. Repeat this step for other bracket.	
12. Rear of trailer	Curbside rear step (61) and roadside rear step (62), 5 capscrews (63), 10 flat washers (64), and 5 self-locking nuts (65)	Remove. Using 9/16-inch socket with reversible ratchet, remove capscrews, flat washers, and nuts. Repeat to remove other rear step.	

4-26. TRAILER ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
REPLACE			
13. Rear of trailer	Curbside rear step (61) and roadside rear step (62), 5 capscrews (63), 10 flat washers (64), 5 self-locking nuts (65)	Replace. Aline holes of rear step to trailer chassis, and insert capscrews, flat washers, and self-locking nuts. Tighten using 9/16-inch socket with reversible ratchet and 9/16-inch combination box- and open-end wrench. Repeat to replace other rear step.	
14. Trailer fenders	Two fender brackets (60), four capscrews (57), eight flat washers (58), and four self-locking nuts (59)	Replace. Aline holes of fender bracket to fender, and insert capscrews, flat washers, and self-locking nuts. Tighten using 9/16-inch socket with reversible ratchet and 9/16-inch combination box- and open-end wrench. Repeat to replace other bracket.	
15. Front roadside trailer	Ground stud (56), two lockwashers (52), three plain nuts (51), four electrical flat washers (53), ground wire (54), and wingnut (55)	Replace. Insert and center ground stud into mounting hole of trailer chassis. Attach the following items on inside of trailer chassis: one lockwasher, one plain nut, one electrical flat washer, one lockwasher, and one plain nut. Attach the following items on the outside of trailer chassis: one plain nut, two electrical flat washers, and one wingnut. Tighten plain nuts using 9/16-inch open-end wrench	

4-26. TRAILER ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		and 9/16-inch combination box- and open-end wrench.	
16. Curbside/ roadside front steps	a. Support bracket (50), two capscrews (47), four flat washers (48), and two self-locking nuts (49)	Replace. With one person holding support bracket, aline holes to trailer chassis and insert capscrews, flat washers, and self-locking nuts. Tighten using 9/16-inch socket with reversible ratchet.	
	b. Three machine screws (42), three cushioned clamps (43), three flat washers (44), three self-locking nuts (45), and ground wire asembly (46)	Replace. Using 6-inch adjustable wrench and no. 2 cross-tip screwdriver, replace screws, cushioned clamps, flat washers, and self-locking nut securing the ground wire assembly.	
	c. Front curbside step (40) or roadside step (41), 9 capscrews (37), 18 flat washers (38), and 9 self-locking nuts (39)	Replace. Aline holes of step with trailer chassis and support bracket. Insert capscrews, flat washers, and self-locking nuts. Tighten using 9/16-inch socket with reversible ratchet. Repeat to replace other front step.	
17. Trailer	Support (36), four capscrews (33), eight flat washers (34), and four self-locking nuts (35)	Replace. Aline holes of supports to trailer chassis and insert capscrews, flat washers, and self-locking nuts. Tighten using 3/4-inch socket with reversible ratchet and 3/4-inch combination box- and	

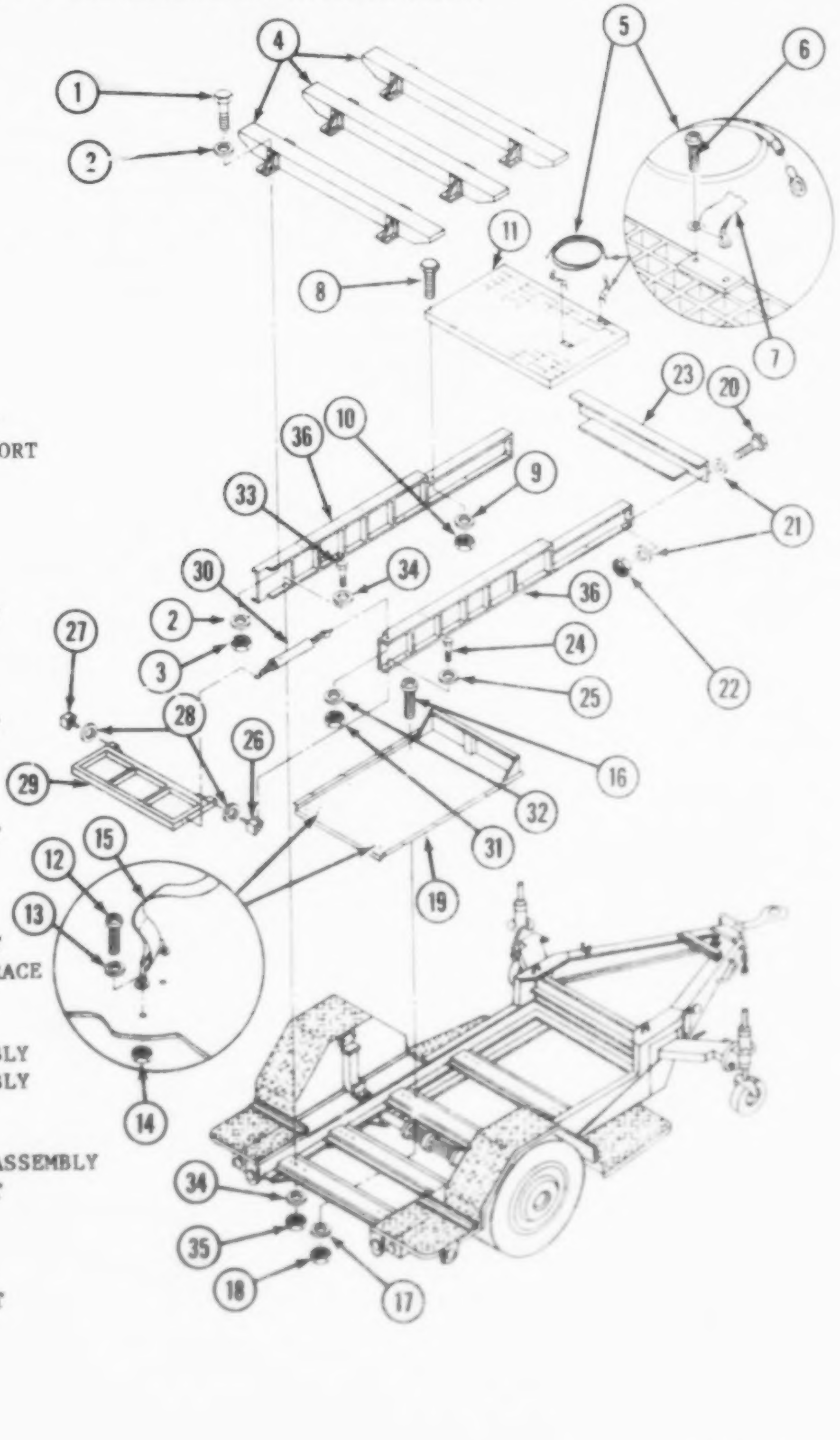
4-26. TRAILER ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		open-end wrench. Repeat to replace other support.	
18. Rear of trailer	a. Two hook and chain assemblies (30), self-locking nuts (31), and flat washers (32)	Replace. Using 9/16-inch combination box- and open-end wrench, tighten self-locking nuts.	
	b. Left-hand hinge pin assembly (27) and right-hand hinge pin assembly (26), four capscrews (24), four flat washers (25), two flat washers (28), and tailgate (29)	Replace. Install flat washers (28) on hinge pin assemblies. With one person holding tailgate, aline holes of hinge pin assemblies to left and right supports. Insert capscrews, and flat washers. Tighten using 9/16-inch socket with reversible ratchet. Close tailgate and secure with hook and chain assemblies.	
19. Left- and right-hand supports	Front channel brace (23), 8 capscrews (20), 16 flat washers (21), and 8 self-locking nuts (22)	Replace. Mount to the front of supports using capscrews, flat washers, and self-locking nuts. Tighten using 1/2-inch socket with reversible ratchet and 1/2-inch combination box- and open-end wrench.	
20. Trailer	Storage tray (19), six capscrews (16), six flat washers (17), and six self-locking nuts (18)	Replace. Aline holes of storage tray with trailer chassis, and insert capscrews, flat washers, and self-locking nuts. Tighten using 3/4-inch socket with reversible ratchet.	

4-26. TRAILER ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
21. Storage tray	a. Two strap assemblies (15), four screws (12), four flat washers (13), and four self-locking nuts (14)	Replace. Aline holes of strap assemblies with storage tray and insert machine screws, flat washers, and self-locking nuts. Tighten using no. 2 cross-tip screwdriver and 6-inch adjustable wrench.	
	b. Walkway grating (11), four capscrews (8), four flat washers (9), and four self-locking nuts (10)	Replace. Secure to left- and right-hand supports using capscrews, flat washers, and self-locking nuts. Tighten using 9/16-inch socket with reversible ratchet.	
22. Walkway grating	Ground wire assembly (5), four screws, (6), and two strap assemblies (7)	Replace. Using a no. 2 cross-tip screwdriver, install strap assemblies.	
23. Center tube supports	Three center tube supports (4), 8 capscrews (1), 16 flat washers (2), and 8 self-locking nuts (3)	Replace. Secure to left- and right-hand supports using capscrews, flat washers, and self-locking nuts. Tighten using 3/4-inch socket with reversible ratchet and 3/4-inch combination box- and open-end wrench.	

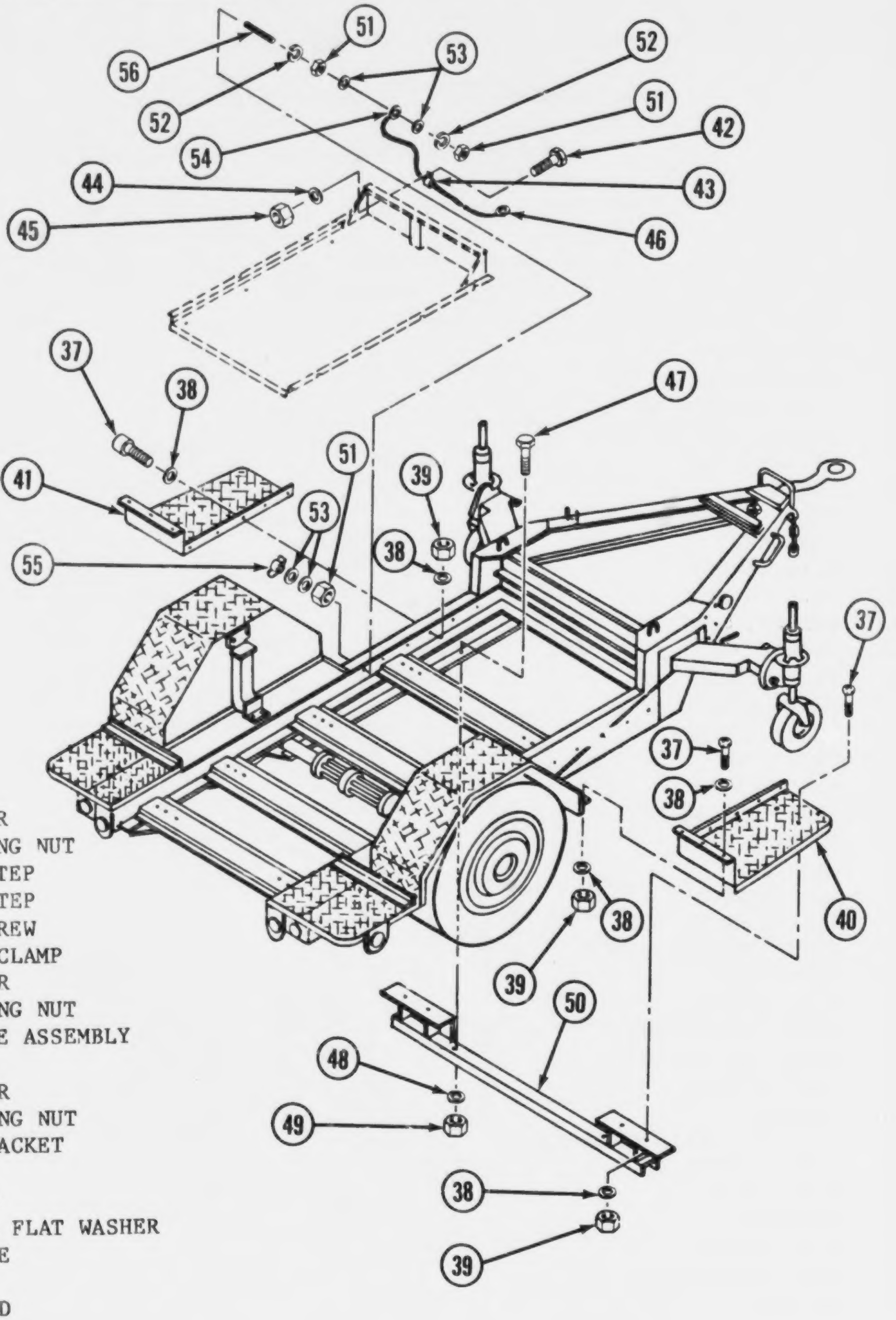
4-26. TRAILER ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)


4
5
6
1
2
11
8
7
23
20
10
36
9
33
21
30
34
36
2
27
24
3
25
22
28
26
16
29
32
15
31
12
19
13
14
34
35
18
17

LEGEND

1	CAPSCREW
2	FLAT WASHER
3	SELF-LOCKING NUT
4	CENTER TUBE SUPPORT
5	GROUND WIRE
6	SCREW
7	STRAP ASSEMBLY
8	CAPSCREW
9	FLAT WASHER
10	SELF-LOCKING NUT
11	WALKWAY GRATING
12	SCREW
13	FLAT WASHER
14	SELF-LOCKING NUT
15	STRAP ASSEMBLY
16	CAPSCREW
17	FLAT WASHER
18	SELF-LOCKING NUT
19	STORAGE TRAY
20	CAPSCREW
21	FLAT WASHER
22	SELF-LOCKING NUT
23	FRONT CHANNEL BRACE
24	CAPSCREW
25	FLAT WASHER
26	HINGE PIN ASSEMBLY
27	HINGE PIN ASSEMBLY
28	FLAT WASHERS
29	TAILGATE
30	HOOK AND CHAIN ASSEMBLY
31	SELF-LOCKING NUT
32	FLAT WASHER
33	CAPSCREW
34	FLAT WASHER
35	SELF-LOCKING NUT
36	SUPPORT

4-26. TRAILER ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

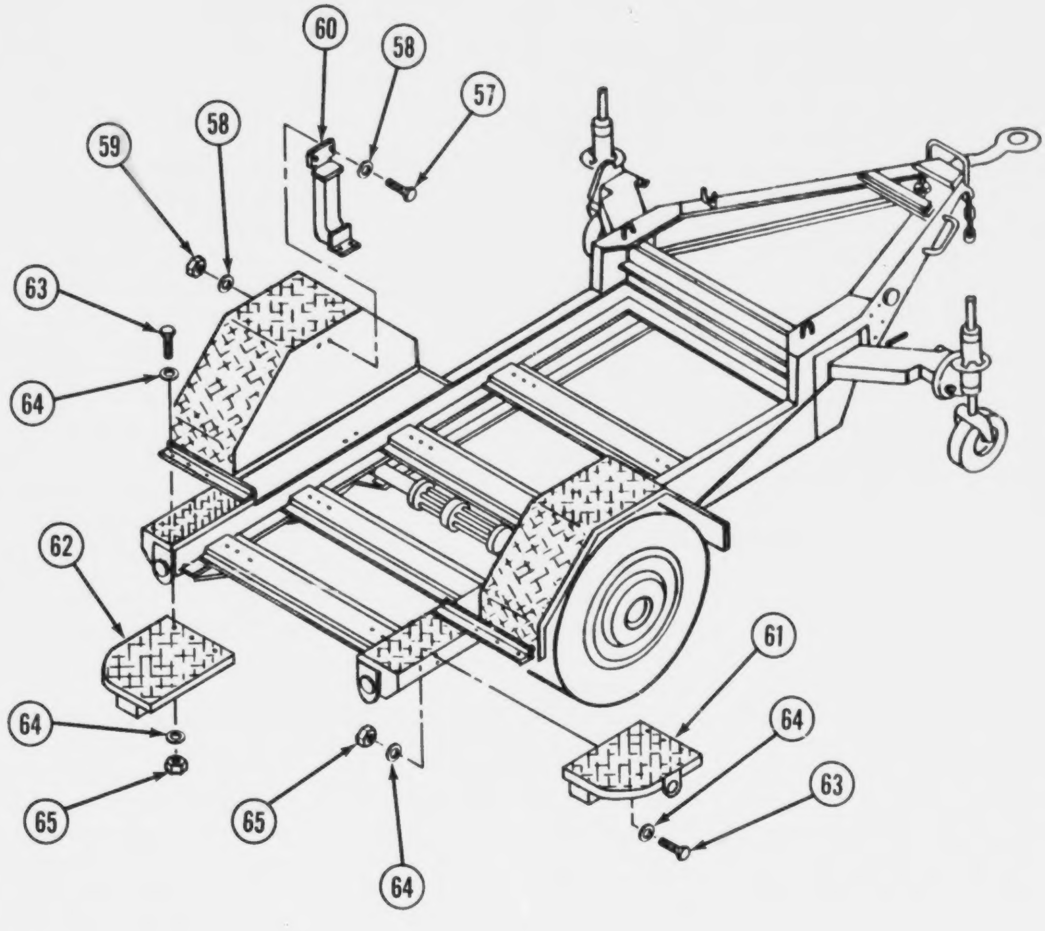

51
56
53
52
52
51
42
54
44
43
45
46
37
38
47
41
51
39
53
38
55
37
37
38
40
38
39
50
48
49
38
39

LEGEND

37	CAPSCREW
38	FLAT WASHER
39	SELF-LOCKING NUT
40	CURBSIDE STEP
41	ROADSIDE STEP
42	MACHINE SCREW
43	CUSHIONED CLAMP
44	FLAT WASHER
45	SELF-LOCKING NUT
46	GROUND WIRE ASSEMBLY
47	CAPSCREW
48	FLAT WASHER
49	SELF-LOCKING NUT
50	SUPPORT BRACKET
51	NUT
52	LOCKWASHER
53	ELECTRICAL FLAT WASHER
54	GROUND WIRE
55	WINGNUT
56	GROUND STUD

best copy available

4-26. TRAILER ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)


60
58
57
59
58
63
64
62
61
64
63
64
65
65
64

LEGEND

57 CAPSCREW
58 FLAT WASHER
59 SELF-LOCKING NUT
60 FENDER BRACKET
61 CURBSIDE REAR STEP
62 ROADSIDE REAR STEP
63 CAPSCREWS
64 FLAT WASHERS
65 SELF-LOCKING NUT

CHAPTER 5

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE

Para
General 5-1

Section I. REPAIR PARTS; SPECIAL TOOLS: TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

Common Tools and Equipment 5-2
Special Tools, TMDE, and Support Equipment 5-3
Repair Parts 5-4

Section II. SERVICE UPON RECEIPT

General 5-5
Service Upon Receipt - EPU Pallet Assembly, Pallet Fuel System, and Intermediate Supports 5-6

Section III. TROUBLESHOOTING

General 5-7

Section IV. MAINTENANCE PROCEDURES

General 5-8
Fuel Distribution Unit - Maintenance Instructions 5-9
K4 Relay - Maintenance Instructions 5-10
W2, W3, and W4 Cables - Maintenance Instructions 5-11
XK4 Wiring Harness - Maintenance Instructions 5-12
J7, J8, J9, and J10 Wiring Harnesses - Maintenance Instructions 5-13
Power Distribution Unit - Maintenance Instructions 5-14
K1 or K2 Contactor - Maintenance Instructions 5-15
W9 Power Cable - Maintenance Instructions 5-16
W10 Power Cable - Maintenance Instructions 5-17
W7 Signal Cable - Maintenance Instructions 5-18
W8 Signal Cable - Maintenance Instructions 5-19
K3 Relay - Maintenance Instructions 5-20
Pallet Frame - Maintenance Instructions 5-21
Fuel Tank Assembly - Maintenance Instructions 5-22
External Fuel Lines and Fittings - Maintenance Instructions 5-23
Trailer Data Plates - Maintenance Instructions 5-24

Section V. PREPARATION FOR STORAGE OR SHIPMENT

General 5-25
Shipment of Generator Set 5-26
Preembarkation Inspection 5-27

5-1. GENERAL. The maintenance instructions contained in this chapter are established to help the direct support (DS) and general support (GS) maintenance personnel maintain the Electric Power Unit (EPU), AN/MJQ-21. In addition to the maintenance functions listed here, DS and GS personnel will be able to perform all tasks at the organizational level.

Section I. REPAIR PARTS; SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

5-2. COMMON TOOLS AND EQUIPMENT. For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

5-3. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT. Refer to the Maintenance Allocation Chart (MAC), appendix B, and to the Repair Parts and Special Tools List (RPSTL), appendix C.

5-4. REPAIR PARTS. Repair parts are listed and illustrated in the RPSTL, appendix C.

Section II. SERVICE UPON RECEIPT

5-5. GENERAL. The EPU will be received fully assembled except for the jumper wire on LOCAL/REMOTE switch (S1). Instructions for servicing the generator sets upon receipt are contained in TM 5-6115-603-12; TM 9-2330-247-14 contains instructions for servicing the M353 (modified) 3½-ton trailer. This section will address the pallet assembly, pallet fuel system, and intermediate supports between the pallet and trailer.

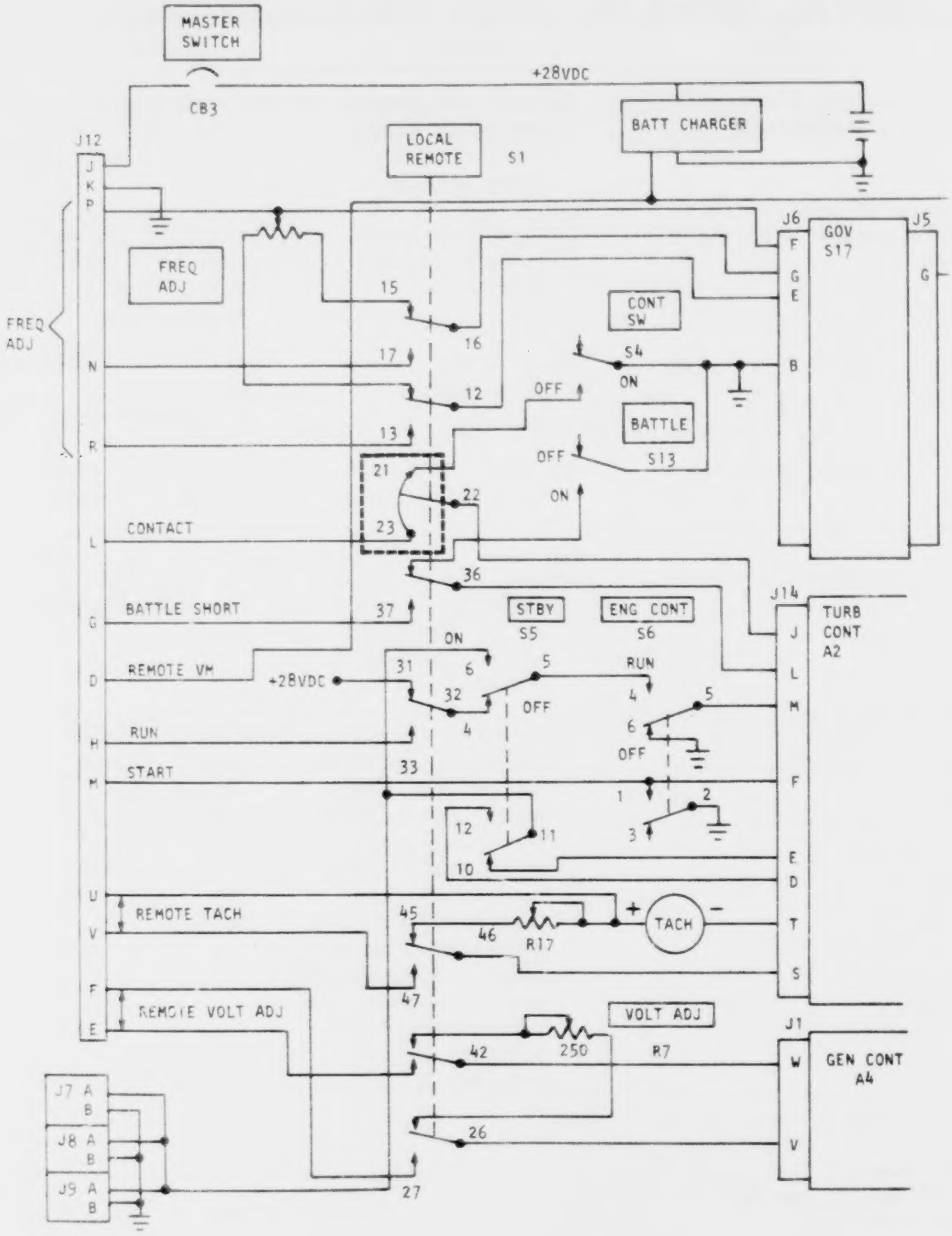
5-6. SERVICE UPON RECEIPT - EPU PALLET ASSEMBLY, PALLET FUEL SYSTEM, AND INTERMEDIATE SUPPORTS

LOCATION	ITEM	ACTION	REMARKS
1. EPU	Pallet assembly	Inspect for damage incurred during shipment.	Record and report the damages in accordance with DA Pam 738-750 and repair as per unit standing operating procedures.
		Inspect for loose or missing mounting hardware and damaged or missing parts.	Record and report the damages in accordance with DA Pam 738-750 and repair as required.

5-6. SERVICE UPON RECEIPT - EPU PALLET ASSEMBLY, PALLET FUEL SYSTEM, AND INTERMEDIATE SUPPORTS (CONT)

LOCATION	ITEM	ACTION	REMARKS
2. Pallet assembly	Fuel lines and fittings	Inspect for damage and loose connections that would cause leakage.	Refer to paragraph 4-25 for repair procedures.
3. Fuel tank assemblies	Fuel tank vents	Inspect for loose connections and damage.	Tighten or replace fuel tank vent using paragraph 4-18.
4. Fuel tank assemblies	Fuel-level gages	Inspect for damage or leakage.	Replace fuel-level gages using paragraph 4-22.
5. Intermediate supports	Mounting bolts	Inspect for loose or missing bolts.	Tighten or replace using paragraph 4-17.
6. Pallet and trailer	Ground systems	Inspect for loose, damaged, or missing parts, incorrect hookup, and loose connections.	Use paragraph 4-17 for this inspection.
7. MEP404B generator control panel	LOCAL/REMOTE switch (S1)	Unlock the 1/4-turn fasteners securing the control panel door. Fold control panel door on top of generator set. Unlock 1/4-turn fasteners securing generator control panel. Open control panel. Connect the jumper wire from terminal 21 to terminal 23.	The LOCAL/REMOTE switch jumper connection diagram is provided on page 5-4 to support the jumper wire hookup.

5-6. SERVICE UPON RECEIPT – EPU PALLET ASSEMBLY, PALLET FUEL SYSTEM, AND INTERMEDIATE SUPPORTS (CONT)


MASTER SWITCH
+28VDC
CB3
BATT CHARGER
J12
LOCAL REMOTE
S1
FREQ ADJ
FREQ ADJ
J6
GOV S17
J5
CONT SW
S4
ON
OFF
BATTLE
S13
CONTACT
BATTLE SHORT
REMOTE VM
RUN
START
STBY
S5
ENG CONT
S6
J14
TURB CONT A2
REMOTE TACH
TACH
R17
REMOTE VOLT ADJ
VOLT ADJ
250
R7
J1
GEN CONT A4
J7
J8
J9

Jumper Connection Diagram

5-6. SERVICE UPON RECEIPT – EPU PALLET ASSEMBLY, PALLET FUEL SYSTEM, AND INTERMEDIATE SUPPORTS (CONT)

CAUTION

S1 HAS A JUMPER WIRE CONNECTED BETWEEN TERMINALS 21 AND 23 FOR PATRIOT SERVICE ONLY. REMOVE JUMPER WHEN MEP404B IS TAKEN OUT OF PATRIOT SERVICE.

S1 Jumper Wire Decal

LOCATION	ITEM	ACTION	REMARKS
8. MEP404B generator	S1 jumper wire decal	Add S1 jumper wire decal to inside of the generator control panel door.	
9. EPU	PDU	Inspect for correct hookups and tighten connections.	Use foldouts in back of manual for correct hookups.

Section III. TROUBLESHOOTING

5-7. GENERAL. Troubleshooting involves the identification of problems that you have with the equipment, and what you must do to solve them. This section contains the troubleshooting symptom (malfunction), test or inspection to be performed, and corrective action pertaining to the EPU fuel supply system and PDU. Foldouts of the EPU wiring diagrams are provided at the end of this manual to support specific troubleshooting procedures. For troubleshooting procedures related to the MEP404B generator set, refer to TM 5-6115-603-34. The procedures listed below are presented in step-by-step detail. Make sure you read and understand each procedure before you begin.

Prior to performing troubleshooting procedures, ensure that the EPU is grounded, and Organizational Preventive Maintenance Checks and Services (PMCS) have been completed. Verify the malfunction, ensuring that all controls are in the proper positions. (Refer to paragraph 2-9.)

Observe the following warnings when performing troubleshooting procedures.

WARNING

- Before starting generator, put on ear protection. Failure to do so may cause hearing loss.
- Do not operate this equipment unless it is grounded. Remove all jewelry from fingers, wrists, and neck before working on electrical equipment. When working on high-voltage equipment, keep one hand away from the equipment to reduce the hazard of current flowing through vital organs of the body. Failure to do so may cause death or serious bodily injury.
- Do not be misled by thinking of 24 vdc as low voltage and therefore safe. Do not touch exposed metal portions of test leads or terminals while performing tests. Electrical shock or burns may result.

If a malfunction occurs that is not listed or cannot be corrected by the information contained in this manual, notify your supervisor for further guidance.

If W1 power cable and W5 cable are not attached to ICC or CRG, the 24-volt interlocks must be jumped. The proper hookup is as follows:

a. Attach jumpers to pins B and D on W1 power cable and to pins Q and R on W5 cable.

b. When troubleshooting is completed, disconnect jumper cables and return PDU wiring to proper configuration.

SYMPTOM INDEX

	Troubleshooting Procedure
Failure of Generator Set On-Line Signal	7
Generator Set Shuts Down, Generator Low Fuel Indicator Light Comes On, No Power at J8 on Fuel Distribution Unit	1

SYMPTOM INDEX (CONT)

	Troubleshooting Procedure
Generator Set Shuts Down, Generator Low Fuel Indicator Light Comes On, No Power at J11 on Power Distribution Unit	2
Loss of 28 vdc at J6 From Generator	4
Low Fuel Signal Fails To Operate When Secondary Fuel Tank is Less Than Half Full	6
No Power to ICC or CRG with Generator Set Running	3
When Primary Fuel Tank is Empty, Fuel Solenoid Valve Does Not Switch From Primary Fuel Tank To Secondary Fuel Tank	5

Table 5-1. Troubleshooting

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

---

1. GENERATOR SET SHUTS DOWN, GENERATOR LOW FUEL INDICATOR LIGHT COMES ON, NO POWER AT J8 ON FUEL DISTRIBUTION UNIT

Step 1. Refer to paragraph 4-18, and remove walkway.

Step 2. Refer to paragraph 5-9, and remove fuel distribution unit cover.

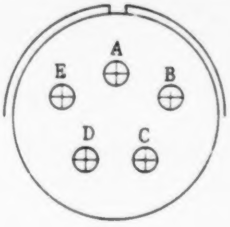
WARNING

Hazardous electrical voltages exist within system. Do not touch exposed metal portions of test leads or terminals while performing tests. Electrical shock or burns may result.

Step 3. Disconnect connectors P7, P8, and P9 from the fuel distribution unit. Install an insulated jumper wire between pins A and D on connector J7. Set multimeter to 50-vdc range, and connect red lead (positive) to pin A on connector J8 and black lead (negative) to ground terminal 4-E1 on the fuel distribution unit. Set MASTER SWITCH to ON. Multimeter should indicate 22 vdc or more. Set MASTER SWITCH to OFF.

Table 5-1. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION



J7/J8

If correct indication is obtained, proceed to step 6.

If correct indication is not obtained, proceed to step 4.

Step 4. Refer to paragraph 5-10, and test K4 relay.

If correct indications are obtained, proceed to step 5.

If correct indications are not obtained, replace K4 relay in accordance with paragraph 5-10.

Step 5. Refer to paragraph 5-13, and perform continuity test on J8 wiring harness.

If correct indications are obtained, proceed to step 6.

If correct indications are not obtained, replace J8 wiring harness in accordance with paragraph 5-13.

Step 6. Refer to paragraph 4-13, and perform continuity test on W3 cable.

If correct indications are obtained, replace solenoid valve assembly in accordance with paragraph 4-23.

If correct indications are not obtained, replace W3 cable in accordance with paragraph 4-13.

2. GENERATOR SET SHUTS DOWN, GENERATOR LOW FUEL INDICATOR LIGHT COMES ON, NO POWER AT J11 ON POWER DISTRIBUTION UNIT.

Step 1. Refer to paragraph 5-14, and remove PDU cover.

Step 2. Refer to paragraph 5-18 for W7 signal cable (for rear generator) or paragraph 5-19 for W8 signal cable (for front generator), and perform continuity test on W7 or W8 signal cable.

Table 5-1. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

If correct indications are obtained, proceed to step 3.

If correct indications are not obtained, replace W7 or W8 signal cable in accordance with paragraph 5-18 or 5-19, respectively.

Step 3. Refer to paragraph 5-14, and test CR1 (diode) for the rear generator set or CR2 (diode) for the front generator set.

If correct indications are obtained, proceed to step 4.

If correct indications are not obtained, replace CR1 or CR2 in accordance with paragraph 5-14, and if not previously tested, test CR3 and CR4 for possible damage in accordance with paragraph 5-9.

Step 4. Refer to paragraph 5-14, and perform continuity test on J11 wiring harness.

If correct indications are obtained, refer to symptom 1.

If correct indications are not obtained, replace J11 wiring harness in accordance with paragraph 5-14.

3. NO POWER TO ICC OR CRG WITH GENERATOR SET RUNNING.

Step 1. Verify the malfunction.

If OUTPUT CKT BKR closed (red) light was lit with OUTPUT CKT BKR switch in the closed position, proceed to step 2.

If OUTPUT CKT BKR open (green) light was lit with OUTPUT CKT BKR switch in the closed position, proceed to step 5.

Step 2. Test the K1 contactor (for the rear generator) or K2 contactor (for the front generator) in accordance with paragraph 5-15.

If K1 or K2 contactor is serviceable, proceed to step 3.

If K1 or K2 contactor is not serviceable, replace contactor in accordance with paragraph 5-15.

Table 5-1. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

Step 3. Test W9 power cable (for the rear generator) in accordance with paragraph 5-16 or test W10 power cable (for the front generator) in accordance with paragraph 5-17.

If W9 or W10 power cable is serviceable, proceed to step 4.

If W9 or W10 power cable is not serviceable, replace or repair cable in accordance with paragraph 5-16 or 5-17.

Step 4. Test W7 signal cable (for the rear generator) in accordance with paragraph 5-18, or test W8 signal cable (for the front generator) in accordance with paragraph 5-19.

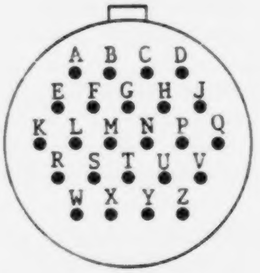
If W7 or W8 signal cable is serviceable, troubleshoot generator set in accordance with TM 5-6115-603-34.

If W7 or W8 signal cable is not serviceable, replace or repair cable in accordance with paragraph 5-18 or 5-19, respectively.

WARNING

Hazardous electrical voltages exist within system. Do not touch exposed metal portions of test leads or terminals while performing tests. Electrical shock or burns may result.

Step 5. Remove connector P6 from connector J6 on the PDU and set multimeter to 50 vdc range. Place black lead (negative) on J6 pin R and red lead (positive) on J6 pin S. Set MASTER SWITCH to ON. Multimeter should indicate 22 vdc or more.



J6

If correct indication is obtained, proceed to step 6.

If correct indication is not obtained, proceed to symptom 4.

Table 5-1. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

Step 6. Test K3 relay in accordance with paragraph 5-20.

If K3 relay is serviceable, proceed to step 4.

If K3 relay is not serviceable, replace K3 relay in accordance with paragraph 5-20.

4. LOSS OF 28 VDC AT J6 FROM GENERATOR.

WARNING

Hazardous electrical voltages exist within system. Do not touch exposed metal portions of test leads or terminals while performing tests. Electrical shock or burns may result.

Step 1. Using a 1/4-inch flat-tip screwdriver, loosen stud assemblies and remove PDU cover. Set MASTER SWITCH to ON. Using a multimeter set to 50 vdc range, test output of diodes CR1 (for rear generator) and CR2 (for front generator). For CR1, touch black lead (negative) to TB2 terminal 5 and red lead (positive) to TB1 terminal 4. For CR2, touch black lead (negative) to TB2 terminal 6 and red lead (positive) to TB1 terminal 4. Multimeter should indicate 22 to 28 vdc. Set MASTER SWITCH to OFF.

If correct indication is obtained, replace the J6 wiring harness in accordance with paragraph 5-14.

If correct indication is not obtained, proceed to step 2.

WARNING

Hazardous electrical voltages exist within system. Do not touch exposed metal portions of test leads or terminals while performing tests. Electrical shock or burns may result.

Step 2. Set MASTER SWITCH to ON. Using a multimeter set to 50 vdc range, test input at diodes CR1 and CR2. For CR1, touch black lead (negative) to TB2 terminal 5 and the red lead (positive) to TB1 terminal 1. For CR2, touch black lead (negative) to TB2 terminal 5, and touch red lead (positive) to TB1 terminal 2. Multimeter should indicate 22 to 28 vdc. Set MASTER SWITCH to OFF.

Table 5-1. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

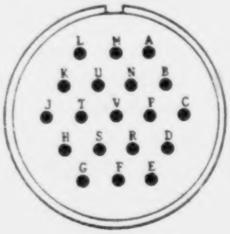
If correct indication is obtained, replace CR1 or CR2 diode in accordance with paragraph 5-14.

If correct indication is not obtained, proceed to step 3.

WARNING

Hazardous electrical voltages exist within system. Do not touch exposed metal portions of test leads or terminals while performing tests. Electrical shock or burns may result.

Step 3. Disconnect connector P12 from J12 on output connector panel of generator set. Set MASTER SWITCH to ON. Using a multimeter set to 50 vdc range, touch black lead (negative) to pin K and red lead (positive) to pin J of connector J12. Multimeter should indicate 22 to 28 vdc. Set MASTER SWITCH to OFF.



J12

If correct indication is obtained, replace W7 signal cable (rear generator set) and/or W8 signal cable (front generator set) in accordance with paragraph 5-18 and/or 5-19.

If correct indication is not obtained, troubleshoot generator set(s) in accordance with TM5-6115-603-34.

5. WHEN PRIMARY FUEL TANK IS EMPTY, FUEL SOLENOID VALVE DOES NOT SWITCH FROM PRIMARY FUEL TANK TO SECONDARY FUEL TANK.

Step 1. Shut down generator set in accordance with paragraph 2-9d. Verify the malfunction.

Step 2. Troubleshoot fuel distribution unit in accordance with symptom 1, step 3.

Table 5-1. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

6. LOW FUEL SIGNAL FAILS TO OPERATE WHEN SECONDARY FUEL TANK IS LESS THAN HALF FULL.

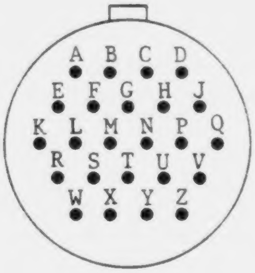
Step 1. Verify the malfunction with the ICC or CRG operator.

Step 2. Shut down the generator set in accordance with paragraph 2-9d.

WARNING

Hazardous electrical voltages exist within system. Do not touch exposed metal portions of test leads or terminals while performing tests. Electrical shock or burns may result.

Step 3. Disconnect connector P6 from connector J6 on the PDU. Using a multimeter set to the 50 vdc range, touch black lead (negative) to J6 pin L, and touch red lead (positive) to J6 pin F. Set MASTER SWITCH to ON. The multimeter should indicate 22 vdc or more.



J6

If correct indication is obtained, set MASTER SWITCH to OFF, and perform continuity test on W5 cable using paragraph 4-16. If W5 cable is serviceable, notify ICC or CRG operator to troubleshoot ICC or CRG. If W5 cable is not serviceable, replace in accordance with paragraph 4-16.

If correct indication is not obtained, proceed to step 4.

Table 5-1. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

WARNING

Hazardous electrical voltages exist within system. Do not touch exposed metal portions of test leads or terminals while performing tests. Electrical shock or burns may result.

Step 4. Using a multimeter set to 50 vdc range, touch red lead (positive) to J6 pin S and black lead (negative) to J6 pin L. Multimeter should indicate 22 to 28 vdc.

If correct indication is obtained, proceed to step 5.

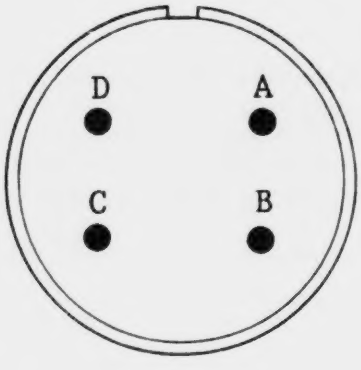
If correct indication is not obtained, set MASTER SWITCH to OFF and refer to troubleshooting symptom 4, LOSS OF 28 VDC AT J6 FROM GENERATOR.

Step 5. Perform continuity test on W6 cable in accordance with paragraph 4-10.

If correct indication is obtained, proceed to step 6.

If correct indication is not obtained, replace W6 cable in accordance with paragraph 4-10.

Step 6. Disconnect W4 cable from fuel-level sensor on secondary fuel tank. Using a multimeter set to RX1 scale, touch one lead to pin A and other to pin C on the fuel-level sensor. Multimeter should indicate zero ohms.



J4

Table 5-1. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

If correct indication is obtained, replace W4 cable in accordance with paragraph 4-12.

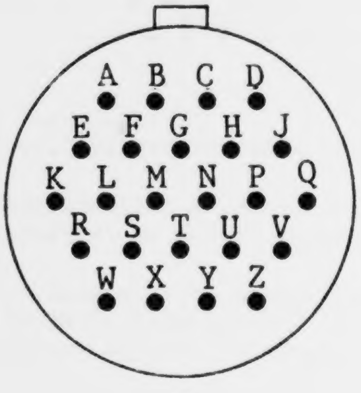
If correct indication is not obtained, replace secondary tank fuel-level sensor in accordance with paragraph 4-19.

7. FAILURE OF GENERATOR SET ON-LINE SIGNAL.

WARNING

Hazardous electrical voltages exist within system. Do not touch exposed metal portions of test leads or terminals while performing tests. Electrical shock or burns may result.

Step 1. Remove connector P6 from connector J6 on PDU. Place a jumper wire between pins R and S on J6. Set multimeter to 50 vdc range. Touch black lead (negative) to J6 pin L and red lead (positive) to pin G (for rear generator) or pin H (for front generator). Start generator in accordance with paragraph 2-9b. Set OUTPUT CKT BKR switch to CLOSED position. Multimeter should indicate 22 to 28 vdc. Shut down generator set in accordance with paragraph 2-9d.



J6

If correct indications are obtained, proceed to step 2.

If correct indications are not obtained, proceed to step 3.

Table 5-1. Troubleshooting (Cont)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

Step 2. Perform continuity test on W5 cable in accordance with paragraph 4-16.

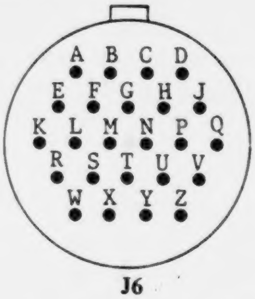
If W5 cable is serviceable, notify ICC or CRG operator.

If W5 cable is not serviceable, replace in accordance with paragraph 4-16.

WARNING

Hazardous electrical voltages exist within system. Do not touch exposed metal portions of test leads or terminals while performing tests. Electrical shock or burns may result.

Step 3. Touch black lead (negative) to J6 pin L and touch red lead (positive) to J6 pin Q. Set MASTER SWITCH to ON. Multimeter should indicate 22 to 28 vdc.



J6

If correct indication is obtained, proceed to step 4.

If correct indication is not obtained, refer to troubleshooting symptom 4, LOSS OF 28 VDC AT J6 FROM GENERATOR.

Step 4. Perform continuity test on W7 signal cable (for rear generator) in accordance with paragraph 5-18 or W8 signal cable (for front generator) in accordance with paragraph 5-19.

If W7 signal cable or W8 signal cable is serviceable, troubleshoot the generator in accordance with TM 5-6115-603-34.

If W7 signal cable or W8 signal cable is not serviceable, replace cable in accordance with paragraph 5-18 or 5-19.

Section IV. MAINTENANCE PROCEDURES

5–8. GENERAL. This section contains maintenance instructions authorized by the MAC in appendix B to support the EPU at the direct support and general support maintenance levels. Direct support personnel will also use the instructions listed in chapter 4 (organizational maintenance) for repairing the EPU, if needed. For those items repaired by welding, turn item over to welder and explain what repairs are needed. For specific maintenance instructions on the generator set, refer to TM 5-6115-603-12 and TM 5-6115-603-34, and to TM 9-2330-247-14 for the M353 (modified) 3½-ton trailer.

5–9. FUEL DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS

This task covers:
  a. Remove
  b. Repair
  c. Disassemble
  d. Test
  e. Reassemble
  f. Replace

INITIAL SETUP

Test Equipment

Multimeter, 6625-00-999-6282

Tools and Special Tools

Contact maintenance shop equipment, truck mounted, 4940-00-294-9518
- 3/8-inch socket, 1/4-inch square female drive
- Socket wrench handle, 1/4-inch square drive
- No. 2 cross-tip screwdriver
- 3/8-inch open-end wrench
- 1/4-inch offset flat-tip screwdriver
- Pocketknife
- Diagonal cutting pliers

Materials/Parts

Shielding sealing strip, 13222E9695-2
Adhesive-Sealant, item 1, appendix D
Conductive adhesive, item 2, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

References

K4 Relay – Maintenance Instructions, paragraph 5-10
XK4 Wiring Harness – Maintenance Instructions, paragraph 5-12
J7, J8, J9, and J10 Wiring Harnesses – Maintenance Instructions, paragraph 5-13

5-9. FUEL DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
4-18	Walkway removed.

Special Environmental Conditions

Adhesive must cure for 24 hours at 60°F (16°C) or higher.

General Safety Instructions

WARNING

Hazardous electrical voltages exist within system. Do not connect or remove electrical cables while power is on. Serious electric shock, burns, or death may result.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Fuel distribution unit	a. W3 cable (1)	Remove. Disconnect male connector P8 from female connector J8 on fuel distribution unit.	
	b. W4 cable (2)	Remove. Disconnect male connector P9 from female connector J9 on fuel distribution unit.	
	c. W6 cable (3)	Remove. Disconnect male connector P10 from female connector J10 on fuel distribution unit.	
	d. W2 cable (4)	Remove. Disconnect male connector P7 from female connector J7 or fuel distribution un	

5-9. FUEL DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	e. Ground wire (5), hex nut (6), lock-spring washer (7), and flat washer (8)	Remove. Using 3/8-inch socket and socket wrench handle, remove hex nut, lock-spring washer, flat washer, and ground wire.	
	f. Fuel distribution unit (9), four hex nuts (10), and four flat washers (11)	Remove. Using 3/8-inch socket and socket wrench handle, remove hex nuts and flat washers. Remove fuel distribution unit Inspect fuel distribution unit for dents or damage.	
	g. Cover (12), four screws (13), four lock-spring washers (14), and four flat washers (15)	Remove. Using no. 2 cross-tip screwdriver, remove retaining screws, lock-spring washers, and flat washers. Lift off cover.	
	h. Interior	Inspect connectors and wiring for loose, damaged, or missing parts.	

REPAIR

NOTE

The following repair procedure is limited to replacing the shielding sealing strip.

2. Cover	Shielding sealing strip (16)	a. Using the old shielding sealing strip as a guide, cut correct lengths of new shielding sealing strips with pocketknife and diagonal cutting pliers.	

5–9. FUEL DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		b. With pocketknife, remove all shielding sealing strip from inside cover. Scrape off all adhesive.	
		c. Begin with one of the long shielding sealing strips. Peel off backing paper from rubber part of shielding sealing strip. Apply shielding sealing strip to inside of cover with metal shielding toward the middle of cover. Edge of rubber strip must cover half of the screw holes.	
		d. Cut shielding sealing strip on a 45° angle at corners.	
		e. Cut and apply second long strip in the same way.	
		f. Cut the short shielding sealing strips to fit against long shielding sealing strips. Peel off backing paper. Apply adhesive-sealant to 45° cuts. Apply short shielding sealing strips to cover. Make sure the rubber section covers half the screw holes and that metal shielding sections	

5-9. FUEL DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		meet. Apply conductive adhesive to metal shielding joints.	
		g. Allow conductive adhesive to cure for 24 hours at 60°F (16°C) or higher.	
		h. Using a pocketknife, cut holes in rubber part of shielding sealing strip the same size as the screw holes.	
DISASSEMBLE			
3. Fuel distribution unit	a. J7, J8, J9, and J10 wiring harnesses	Remove.	See paragraph 5-13.
	b. K4 relay	Remove.	See paragraph 5-10.
	c. XK4 wiring harness	Remove.	See paragraph 5-12.
	d. Diode assembly (CR3) (17) and two screws (18)	Remove. Using 1/4-inch offset flat-tip screwdriver, remove terminal board screws at TB3 terminals 2 and 4. Remove diode assembly (CR3).	
	e. Diode assembly (CR4) (19) and two screws (20)	Remove. Using 1/4-inch offset flat-tip screwdriver, remove terminal board screws at TB3 terminals 3 and 5. Remove diode assembly (CR4).	

5-9. FUEL DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	f. Ground terminal 4-E1 (21), two flat washers (22), and ground wire (23)	Remove. Using 1/4-inch offset flat-tip screwdriver, remove ground terminal 4-E1, flat washers, and ground wire.	
	g. Ground wire (23) and screw (24)	Remove. Using 1/4-inch offset flat-tip screwdriver, remove ground wire from TB3 terminal 1.	
	h. Terminal board TB3 (25), four screws (26), four flat washers (27), four lock-spring washers (28), four hex nuts (29), and marker strip (30)	Remove. Using 3/8-inch open-end wrench and no. 2 cross-tip screwdriver, remove terminal board, screws, flat washers, lock-spring washers, hex nuts, and marker strip.	
	i. Screw (31) and jumper (32)	Remove. Using 1/4-inch offset flat-tip screwdriver, remove screw at TB3 terminal 1 and jumper.	
TEST			
4. Fuel Distribution unit	Diode assemblies CR3 (17) and CR4 (19)	Test. Set multimeter to ohms RX1000 scale. Touch multimeter black lead to one terminal lug and multimeter red lead to other terminal lug. Note multimeter reading. Reverse the leads and note multimeter reading. If reading is higher or lower than first reading, diode is good. If second reading is the same as the first, replace diode.	

5-9. FUEL DISTRIBUTION UNIT - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
REASSEMBLE			
5. Fuel distribution unit	a. Jumper (32) and screw (31)	Install. Using 1/4-inch offset flat-tip screwdriver, install jumper and screw.	
	b. Terminal board TB3 (25), four screws (26), four flat washers (27), four lock-spring washers (28), four hex nuts (29), and marker strip (30)	Install. Using 3/8-inch open-end wrench and no. 2 cross-tip screwdriver, install marker strip, terminal board, screws, flat washers, lock-spring washers, and hex nuts.	
	c. Ground wire (23) and screw (24)	Install. Using 1/4-inch offset flat-tip screwdriver, install ground wire on TB3 terminal 1.	
	d. Ground terminal 4-E1 (21), two flat washers (22), and ground wire (23)	Install. Place flat washer, ground wire, and second flat washer over ground terminal. Install ground terminal into nut rivet.	
	e. Diode assembly (CR4) (19) and two screws (20)	Install. Using 1/4-inch flat-tip screwdriver, install diode assembly (CR4) on terminal board at TB3 terminals 3 and 5 with terminal board screws.	
	f. Diode assembly (CR3) (17) and two screws (18)	Install. Using 1/4-inch offset flat-tip screwdriver, install diode assembly (CR3) on terminal board at TB3 terminals 2 and 4 with terminal board screws.	

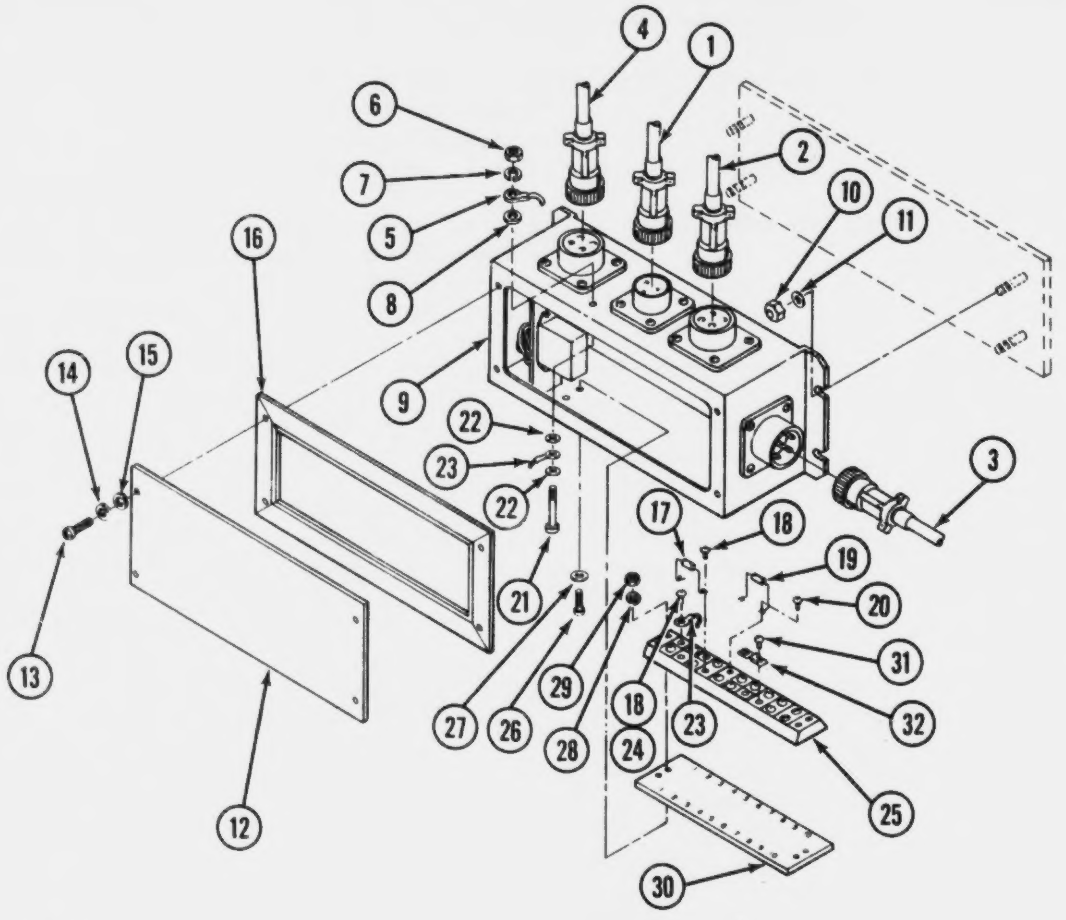
5-9. FUEL DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	g. XK4 wiring harness	Install.	See paragraph 5-12.
	h. K4 relay	Install.	See paragraph 5-10.
	i. J7, J8, J9, and J10 wiring harnesses	Install.	See paragraph 5-13.
REPLACE			
6. Fuel distribution unit	a. Cover (12), four screws (13), four lock-spring washers (14), and four flat washers (15)	Replace. Aline fuel distribution unit and cover. Using no. 2 cross-tip screwdriver, replace screws, lock-spring washers, and flat washers. Tighten screws.	
	b. Fuel distribution unit (9), four flat washers (11), and four hex nuts (10)	Install. Using 3/8-inch socket and socket wrench handle, install fuel distribution unit, flat washers, and hex nuts. Tighten securely.	
	c. Ground wire (5), flat washer (8), lock-spring washer (7), and hex nut (6)	Install. Over ground terminal, install flat washer, ground wire, lock-spring washer, and hex nut. Using 3/8-inch socket and socket wrench handle, tighten hex nut.	
	d. W2 cable (4)	Install. Connect male connector P7 to female connector J7 on fuel distribution unit.	
	e. W6 cable (3)	Install. Connect male connector P10 to female connector J10 on fuel distribution unit.	

5-9. FUEL DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	f. W4 cable (2)	Install. Connect male connector P9 to female connector J9 on fuel distribution unit.	
	g. W3 cable (1)	Install. Connect male connector P8 to female connector J8 on fuel distribution unit.	

5–9. FUEL DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)


4
1
6
2
7
10
11
5
16
8
15
14
9
22
23
22
3
17
18
19
21
20
13
31
29
18
32
27
26
28
24
23
12
25
30

LEGEND

1	W3 CABLE
2	W4 CABLE
3	W6 CABLE
4	W2 CABLE
5	GROUND WIRE
6	HEX NUT
7	LOCK-SPRING WASHER
8	FLAT WASHER
9	FUEL DISTRIBUTION UNIT
10	HEX NUT
11	FLAT WASHER
12	COVER
13	SCREW
14	LOCK-SPRING WASHER
15	FLAT WASHER
16	SHIELDING SEALING STRIP
17	DIODE ASSEMBLY (CR3)
18	SCREW
19	DIODE ASSEMBLY (CR4)
20	SCREW
21	GROUND TERMINAL 4-E1
22	FLAT WASHER
23	GROUND WIRE
24	SCREW
25	TERMINAL BOARD (TB3)
26	SCREW
27	FLAT WASHER
28	LOCK-SPRING WASHER
29	HEX NUT
30	MARKER STRIP
31	SCREW
32	JUMPER

5-10. K4 RELAY – MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Test
- c. Replace

INITIAL SETUP

Test Equipment

Power Supply, 6130-00-249-2748
Multimeter, 6625-00-999-6282

Tools and Special Tools

Contact maintenance shop equipment, truck mounted, 4940-00-294-9518
1/4-inch offset flat-tip screwdriver

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
4-18	Walkway removed.
5-9	Fuel distribution unit cover removed.

General Safety Instructions

WARNING

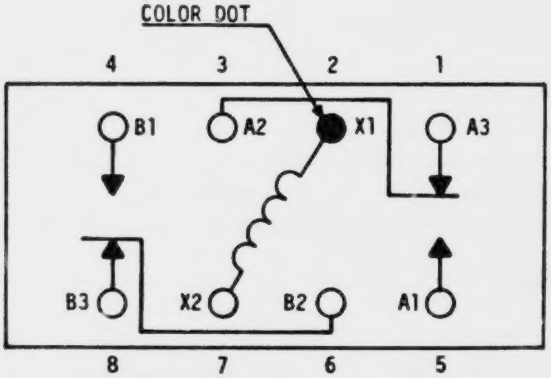
Hazardous electrical voltage exists within system. Do not connect or remove electrical cables while power is on. Serious electrical shock, burns, or death may result.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Fuel distribution unit	Two screws (1), two star washers (2), and K4 relay (3)	Remove. Using 1/4-inch offset flat-tip screwdriver, remove screws, star washers, and K4 relay.	
TEST			
2. Fuel Distribution unit	K4 relay	a. Test. Set power supply for 1 amp, 24 vdc output. Ensure power is off.	
		b. Connect power supply positive lead to relay pin X1 (2).	

5-10. K4 RELAY - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		Connect power supply negative lead to relay pin X2 (7). See illustration below for pin locations.	
		c. Turn power supply on.	
		d. Set multimeter to ohms RX1 scale.	
		e. Take pin-to-pin readings shown in tables below. All readings should be zero ohms.	If any reading is greater than 10 ohms, replace relay.

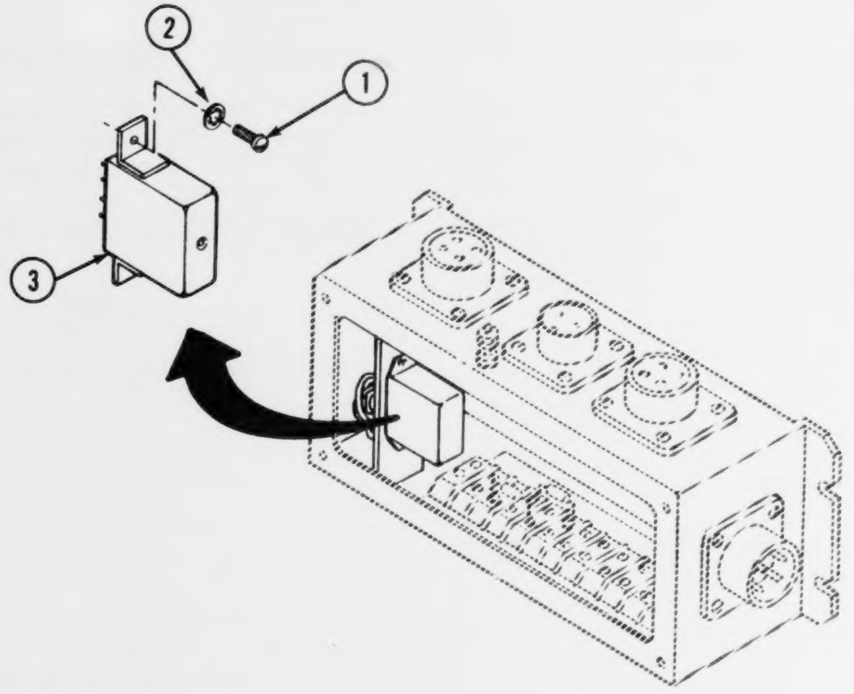
Deenergize	
From	To
A2 (3) B2 (6)	A3 (1) B3 (8)
Energize	
From	To
A2 (3) B2 (6)	A1 (5) B1 (4)



REPLACE

LOCATION	ITEM	ACTION	REMARKS
3. Fuel distribution unit	K4 relay (3), two star washers (2), and two screws (1)	Replace. Push K4 relay into relay socket. Install star washers and screws. Tighten using 1/4-inch offset flat-tip screwdriver.	

5-10. K4 RELAY - MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1 SCREW
2 STAR WASHER
3 K4 RELAY

5-11. W2, W3, AND W4 CABLES – MAINTENANCE INSTRUCTIONS

This task covers:
a. Repair

INITIAL SETUP

Tools and Special Tools

- Contact maintenance shop equipment, truck mounted, 4940-00-294-9518
  - 1/4-inch flat-tip screwdriver
  - Pocketknife
  - Diagonal cutting pliers
- Hand wire stripper, 5110-00-268-4224
- Soldering and desoldering set, electric, temperature controlled 3439-00-460-7198

Materials/Parts

Solder, item 13, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
4-11	W2 cable removed.
4-13	W3 cable removed.
4-12	W4 cable removed.

General Safety Instructions

WARNING

Avoid contact with soldering iron and soldered parts. Severe burns may result.

LOCATION	ITEM	ACTION	REMARKS

REPAIR

WARNING

Avoid contact with soldering iron and soldered parts. Severe burns may result.

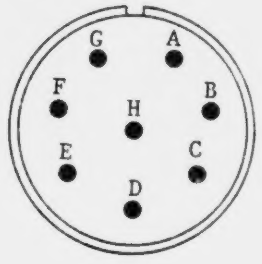
LOCATION	ITEM	ACTION	REMARKS
W2, W3, or W4 cable	a. Two screws (1), connector backshell (2), connector (3), insert (4), and EMI bushing (5)	Disassemble. Using 1/4-inch flat-tip screwdriver, loosen screws holding cable to connector backshell. Unscrew backshell from connector, and slide backshell onto cable.	

5-11. W2, W3, AND W4 CABLES – MAINTENANCE INSTRUCTIONS (CONT)

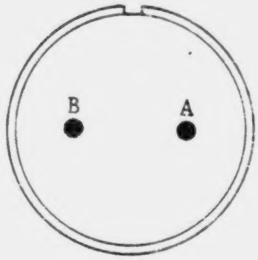
LOCATION	ITEM	ACTION	REMARKS
		Unscrew insert from connector, and desolder wires. Disconnect braided shield from EMI bushing, and slide insert, bushing, and connector off the wires.	
	b. Connector (3), EMI bushing (5), insert (4), connector back-shell (2), and two screws (1)	Reassemble. Slide insert, connector, and bushing onto wires. Solder wires to insert terminals. Form braided shield over EMI bushing.	See wire list and pin locator for proper wire locations.

W2 CABLE	
COLOR CODE	TERMINAL
White/Black White/Brown White/Red White/Orange	P7-A P7-B P7-C P7-D
W3 CABLE	
COLOR CODE	TERMINAL
White/Black White/Brown	P3-A P3-B
W4 CABLE	
COLOR CODE	TERMINAL
White/Black White/Brown White/Red White/Orange	P9-A P9-B P9-C P9-D

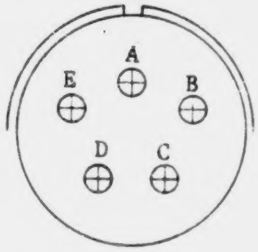
CABLE	LENGTH (inches)
W2 W3 W4	27.00 (68.58 cm) 30.00 (76.20 cm) 25.00 (63.50 cm)



P7



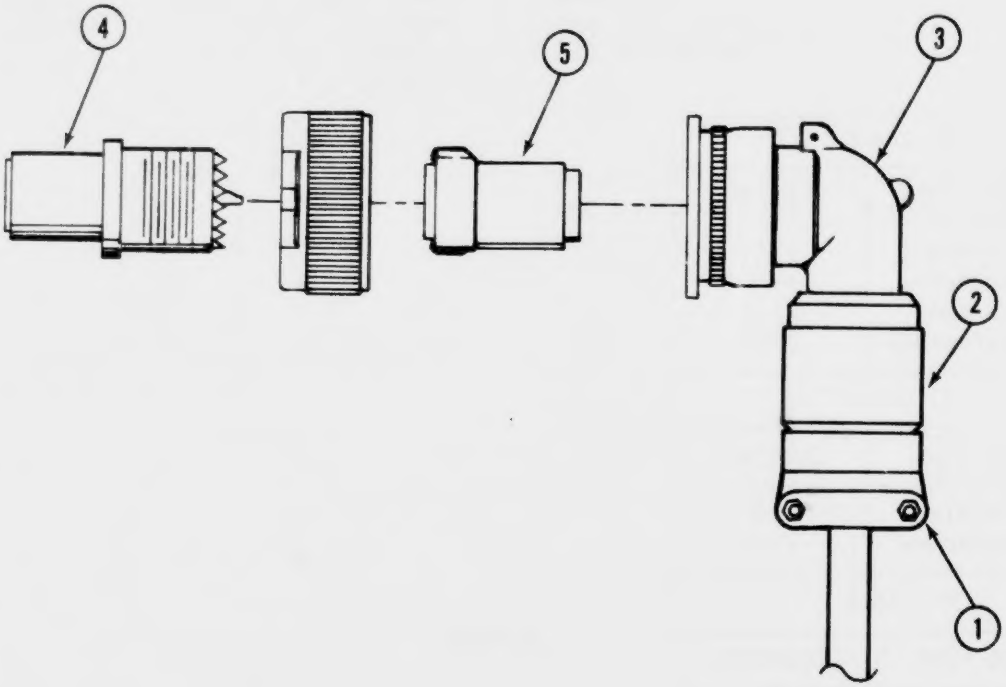
P3



P9

5-11. W2, W3, AND W4 CABLES – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		Install insert into connector and hand tighten. Install backshell to connector and hand tighten. Using 1/4-inch flat-tip screwdriver, tighten screws.	To test repaired cable, see paragraph 4-11, 4-13, or 4-12 as appropriate.



LEGEND

1 SCREW
2 CONNECTOR BACKSHELL
3 CONNECTOR
4 INSERT
5 EMI BUSHING

5-12. XK4 WIRING HARNESS - MAINTENANCE INSTRUCTIONS

This task covers:
a. Remove
b. Inspect
c. Test
d. Repair
e. Replace

INITIAL SETUP

Test Equipment

Multimeter, 6625-00-999-6282

Tools and Special Tools

Soldering and desoldering set, electric, temperature controlled, 3459-00-460-7198
Contact maintenance shop equipment, truck mounted, 4940-00-294-9518
- 1/4-inch offset flat-tip screwdriver
- Long round-nose pliers

Hand wire stripper, 5110-00-268-4224

Materials/Parts

Solder, item 13, appendix D
Electrical tape, item 4, appendix D
Tags, item 14, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down
4-18	Walkway removed.
5-9	Fuel distribution unit cover removed.
5-10	K4 relay removed.

General Safety Instructions

WARNING

- Hazardous electrical voltages exist within system. Do not connect or remove electrical cables while power is on. Serious electric shock, burns, or death may result. Avoid contact.
- Avoid contact with soldering iron and soldered parts. Severe burns can result.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Fuel distribution unit	a. XK4 wiring harness (1) and four screws (2)	Remove. Using 1/4-inch offset flat-tip screwdriver, remove screws, tag, and disconnect	

5–12. XK4 WIRING HARNESS – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		XK4 wiring harness terminal lugs from TB3 terminals 1, 4, 5, and 9.	
	b. XK4 relay socket (3), two standoffs (4), and two self-locking nuts (5)	Remove. Using long round-nose pliers and 1/4-inch offset flat-tip screwdriver, remove standoffs, self-locking nuts, and XK4 relay socket.	
INSPECT			
2. Fuel distribution unit	XK4 wiring harness	Inspect. Check for loose, damaged, or missing components.	Replace defective connection.
TEST			
3. Fuel distribution unit	XK4 wiring harness	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table shown below, test cable. Start with wire XK4-7 and work down. All readings should be zero ohms.	If readings are not correct, repair or replace the wiring harness.

From	To
TB3-1	XK4-7
TB3-4	XK4-2
TB3-5	XK4-3
TB3-9	XK4-5

5-12. XK4 WIRING HARNESS – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS

REPAIR

WARNING

Avoid contact with soldering iron and soldered parts. Severe burns can result.

NOTE

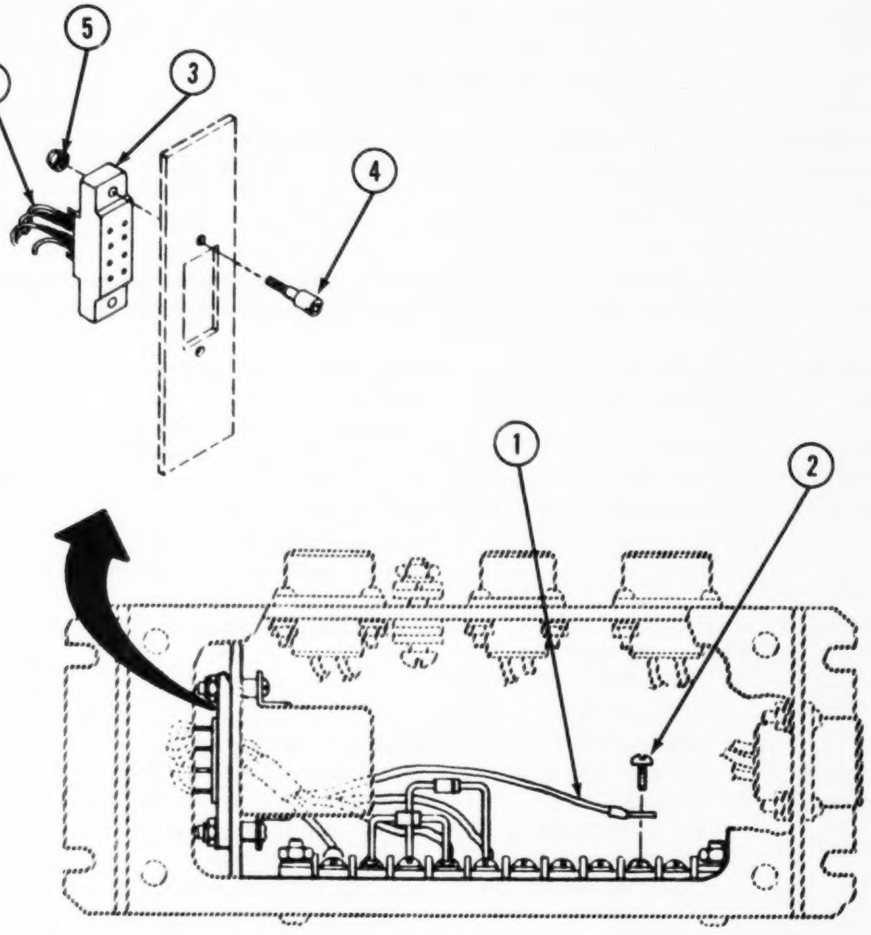
Repair of XK4 wiring harness is limited to splicing one or two wires. If more than two wires are damaged, replace XK4 wiring harness.

LOCATION	ITEM	ACTION	REMARKS
4. XK4 wiring harness	Damaged wire of XK4 wiring harness	Using hand wire stripper, strip 1/2 inch of insulation off each end of damaged wire. Place wires together and twist tightly. Using soldering set, apply solder to splice. Tape splice using electrical tape.	

REPLACE

LOCATION	ITEM	ACTION	REMARKS
5. Fuel distribution unit	a. XK4 relay socket (3) and wiring, two standoffs (4), and two self-locking nuts (5)	Replace. Aline relay mounting holes in fuel distribution unit with those in XK4 relay socket. Install standoffs and self-locking nuts. Tighten using 1/4-inch offset flat-tip screwdriver and long round-nose pliers.	
	b. XK4 wiring harness (1) and four screws (2)	Replace. Using 1/4-inch offset flat-tip screwdriver, connect XK4 wiring harness terminal lugs to TB3 terminals 1, 4, 5, and 9 and tighten screws. Remove tags.	

5-12. XK4 WIRING HARNESS – MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1	XK4 WIRING HARNESS
2	SCREW
3	XK4 RELAY SOCKET
4	STANDOFF
5	SELF-LOCKING NUT

5-13. J7, J8, J9, AND J10, WIRING HARNESSES – MAINTENANCE INSTRUCTIONS

This task covers:

a. Remove
b. Inspect
c. Test
d. Repair
e. Replace

INITIAL SETUP

Test Equipment

Multimeter, 6625-00-999-6282

Tools and Special Tools

- Contact maintenance shop equipment, truck mounted, 4940-00-294-9518
  - 1/4-inch offset flat-tip screwdriver
  - 1/4-inch socket, 1/4-inch square female drive
  - Socket wrench handle, 1/4-inch square drive
  - No. 1 cross-tip screwdriver
  - Universal joint
- Soldering and desoldering set, electric, temperature controlled 3439-00-460-7198
- Hand wire stripper, 5110-00-268-4224
- Hand terminal crimping tool, 5120-00-596-9313
- Heat gun

Materials/Parts

Electrical tape, item 4, appendix D
Tags, item 14, appendix D
Solder, item 13, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
4-18	Walkway removed.
5-9	Fuel distribution unit cover removed.

General Safety Instructions

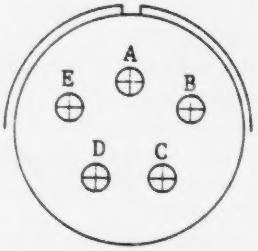
WARNING

- Hazardous electrical voltages exist within system. Do not connect or remove electrical cables while power is on. Serious electric shock, burns, or death may result.
- Avoid contact with soldering iron and soldered parts. Severe burns can result.

5-13. J7, J8, J9, AND J10 WIRING HARNESSES – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Fuel distribution unit	a. J7 (1), J8 (2), J9 (3), and/or J10 (4) wiring harness(es). and screws (5)	Tag wires. Using a 1/4-inch offset flat-tip screwdriver, remove screws. Tag and disconnect wires to remove J7, J8, J9, and/or J10 wiring harness(es). Use table below to determine wire to be removed.	

From		To	
Connector	Pin	TB3	Terminal
J7	A	TB3	8
J7	D	TB3	4
J8	A	TB3	5
J8	B	TB3	2
J9	A	TB3	9
J9	C	TB3	10
J10	A	TB3	7
J10	B	TB3	1
J10	C	TB3	10



J7/J8/J9/J10

LOCATION	ITEM	ACTION	REMARKS
	b. Four screws (6); four flat washers (7); four lock-spring washers (8); four nuts (9); J7 (1), J8 (2), J9 (3), and/or J10 (4), wiring harness(es); and EMI gasket (10)	Remove. Using a no. 1 cross-tip screwdriver and 1/4-inch socket, universal joint, and socket wrench handle, remove flat washers, lock-spring washers, and nuts. Remove J7, J8, J9, and/or J10 wiring harness(es). Remove EMI gasket(s).	

5-13. J7, J8, J9, AND J10 WIRING HARNESSES - MAINTENANCE INSTRUCTIONS (CONT)

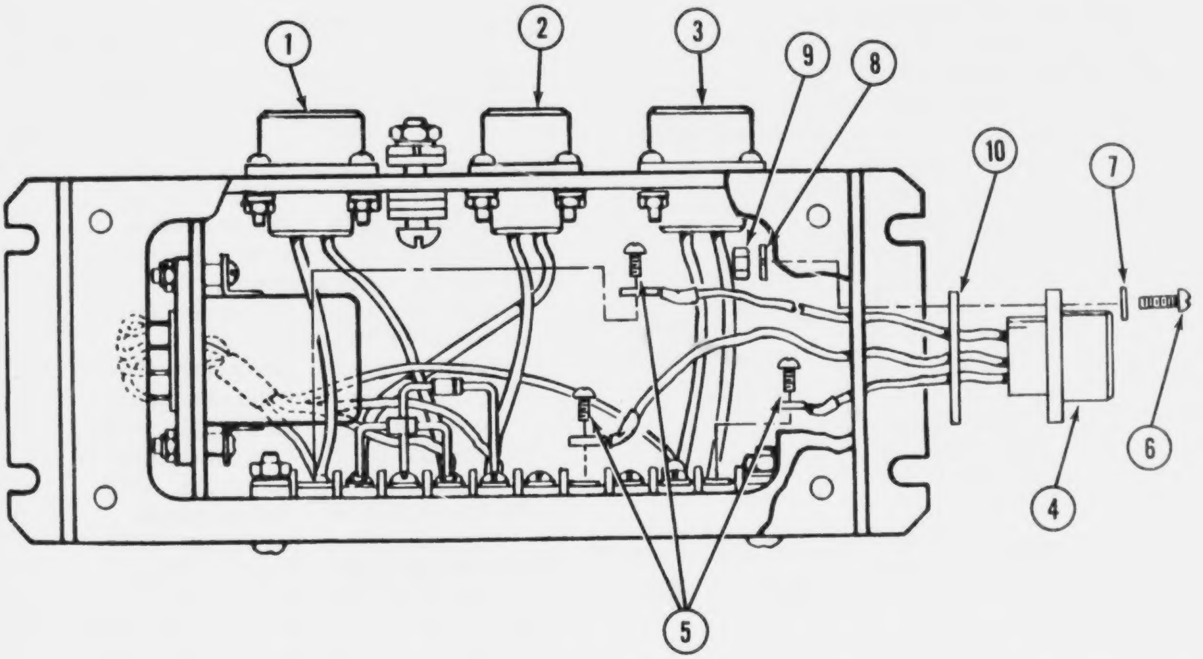
LOCATION	ITEM	ACTION	REMARKS
INSPECT			
2. Fuel distribution unit	J7 (1), J8 (2), J9 (3), and J10 (4) wiring harnesses	a. Inspect. Check for loose connections and frayed or damaged wiring.	If connections are loose, or wires are frayed or damaged, replace J7, J8, J9, and J10 wiring harnesses.
		b. Inspect. Check for loose, damaged, or missing components on connectors.	Replace defective connector.
TEST			
3. Fuel distribution unit	a. J7 (1), J8 (2), J9 (3), and J10 (4) wiring harnesses	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table shown above, test wiring harnesses.	
		Touch black lead to the pin of the connector. Touch red lead to each of the wires. Readings should be zero ohms.	If readings are not correct, repair or replace wiring harness that shows incorrect reading.

5-13. J7, J8, J9, AND J10 WIRING HARNESSES - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
REPAIR			
		WARNING Avoid contact with soldering iron and soldered parts. Severe burns can result.	
4. J7, J8, J9 and J10 wiring harnesses	a. Damaged wire	Repair. Using hand wire stripper, strip 1/2-inch of insulation from each end of damaged wire. Place new and damaged wires together and twist tightly. Using soldering set, apply solder to splice. Tape splice using electrical tape.	
	b. Damaged terminal	Repair. Use diagonal cutter to cut wire near lug. Using wire stripper, strip end of wire. Slide insulation sleeving onto wire. Attach new terminal lug with crimping tool. Slide insulation sleeving down over crimped connection. Shrink sleeving with heat gun.	
REPLACE			
5. Fuel distribution unit	a. J7 (1), J8 (2), J9 (3), and/or J10 (4) wiring harness(es), EMI gasket (10), four lock-spring washers (8), four flat washers (7), four screws (6), and four nuts (9)	Replace. Thread J7, J8, J9, and/or J10 wiring harness(es) through appropriate opening on fuel distribution enclosure with EMI gasket(s) in place between fuel distribution unit enclosure and connector. Using no. 1 cross-tip screwdriver and 1/4-inch socket, universal joint,	

5-13. J7, J8, J9, AND J10 WIRING HARNESSES - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		and socket wrench handle, install J7, J8, J9, and/or J10 wiring harness(es), EMI gaskets, lock-spring washers, flat washers, screws, and nuts.	
	b. J7 (1), J8 (2), J9 (3), and/or J10 (4) wiring harness(es), and screws (5)	Install. Using 1/4-inch offset flat-tip screwdriver, install screws to connect wires to terminal board TB3. Remove tags.	



LEGEND

1 J7 WIRING HARNESS
2 J8 WIRING HARNESS
3 J9 WIRING HARNESS
4 J10 WIRING HARNESS
5 SCREW
6 SCREW
7 FLAT WASHER
8 LOCK-SPRING WASHER
9 NUT
10 EMI GASKET

5–14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS

This task covers:

- a. Inspect
- b. Test
- c. Remove
- d. Repair
- e. Replace

INITIAL SETUP

Test Equipment

Multimeter, 6625-00-999-6282

Tools and Special Tools

- Soldering and desoldering set, electric, temperature controlled, 3459-00-460-7198
- Contact maintenance shop equipment, truck mounted, 4940-00-294-9518
  - 3/8-inch open-end wrench
  - Two 9/16-inch open-end wrenches
  - 1/2-inch socket, 1/4-inch square female drive
  - Socket wrench handle, 1/4-inch square drive
  - 1/4-inch flat-tip screwdriver
  - No. 2 cross-tip screwdriver
  - 5/16-inch socket, 1/4-inch square female drive
  - No. 1 cross-tip screwdriver
  - 1/4-inch deep style socket, 3/8-inch square female drive
  - Hand hammer
  - 1/4-inch socket, 1/4-inch square female drive
  - 3/8-inch socket, 1/4-inch square female drive
  - Pocketknife
  - Diagonal cutting pliers
  - 3/8-inch deep style socket, 3/8-inch square female drive
  - 1/4-inch offset flat-tip screwdriver
- Hand wire stripper, 5110-00-268-4224
- Solid center punch, size 2, 5120-00-293-3512

Materials/Parts

Solder, item 13, appendix D
Electrical tape, item 4, appendix D
Shielding sealing strip, 13222E9695-1
Adhesive-Sealant, item 1, appendix D
Conductive adhesive, item 2, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

References

W1 Power Cable - Maintenance Instructions, paragraph 4-15
W5 Cable - Maintenance Instructions, paragraph 4-16
W6 Cable - Maintenance Instructions, paragraph 4-10
W7 Signal Cable - Maintenance Instructions, paragraph 5-18
W8 Signal Cable - Maintenance Instructions, paragraph 5-19
W9 Power Cable - Maintenance Instructions, paragraph 5-16
W10 Power Cable - Maintenance Instructions, paragraph 5-17
K1 or K2 Contactor - Maintenance Instructions, paragraph 5-15
K3 Relay - Maintenance Instructions, paragraph 5-20

5-14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

Equipment Condition Para	Condition Description
2-9d	Generators shut down.

Special Environmental Conditions

Adhesive must cure for 24 hours at 60°F (16°C) or higher.

General Safety Instructions

WARNING

- Hazardous electrical voltage exists within system. Do not connect or remove electrical cables while power is on. Serious electric shock, burns, or death may result.
- Avoid contact with soldering iron and soldered parts. Severe burns may result.

LOCATION	ITEM	ACTION	REMARKS
INSPECT			
1. PDU	a. PDU enclosure (1)	Inspect for dents or damage.	
	b. PDU cover (2) and 12 stud assemblies (3)	Remove. Using a 1/4-inch flat-tip screwdriver, loosen stud assemblies. Lift PDU cover off PDU.	
	c. Wiring	Inspect interior for frayed, burnt, or damaged wiring.	
	d. Connectors	Inspect connectors for damage or improper connections.	
	e. Diodes CR1 and CR2 (4)	Inspect for damage and insecure mounting.	Replace defective diodes.
TEST			
2. PDU	a. W1 power cable	Test.	See paragraph 4-15.

5-14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	b. W5 cable	Test.	See paragraph 4-16.
	c. W6 cable	Test.	See paragraph 4-10.
	d. W7 signal cable	Test.	See paragraph 5-18.
	e. W8 signal cable	Test.	See paragraph 5-19.
	f. W9 power cable	Test.	See paragraph 5-16.
	g. W10 power cable	Test.	See paragraph 5-17.
	h. K1 and K2 contactors	Test.	See paragraph 5-15.
	i. K3 relay	Test.	See paragraph 5-20.
	j. Diode CR1	Test. a. Set multimeter to RX1000 ohms. b. Disconnect wire at TB1 terminal 4 and touch multimeter negative probe (black) on wire removed. Touch positive probe (red) to TB1 terminal 1. Note multimeter reading. c. Reverse the probes so black probe is on TB1 terminal 4 and red probe is on wire removed. Note multimeter reading.	

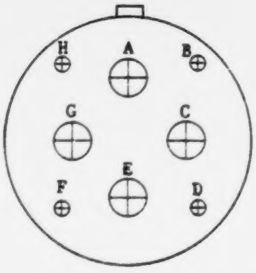
5-14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		d. Compare readings obtained from test in b and c, above. If reading was low in b and high in c, or high in b and low in c, diode is good. If reading was low or high in both b and c, replace diode.	
	k. Diode CR2	Test.	
		a. Set multimeter to ohms RX1000 scale.	
		b. Disconnect wire at TB1 terminal 3 and touch multimeter negative probe (black) to wire removed. Touch positive probe (red) to TB1 terminal 2. Note multimeter reading.	
		c. Reverse the probes so black probe is on TB1 terminal 3 and red probe is on wire removed. Note multimeter reading.	
		d. Compare readings obtained from test in b and c, above. If reading was low in b and high in c, or high in b and low in c, diode is good. If reading was low or high in both b and c, replace diode.	

5-14. POWER DISTRIBUTION UNIT - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	l. J1 wiring harness (5)	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table and illustration shown below, test cable. Start with J1-A and work down. All readings should be zero ohms.	

From		To	
Connector	Pin		Terminal
J1	A	K2	A2
J1	B	TB2	2
J1	C	K2	B2
J1	D	TB2	1
J1	E	3-E1	
J1	G	K2	C2



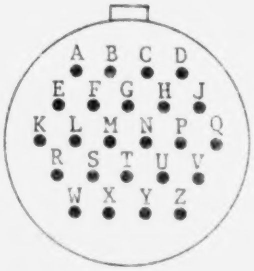
J1

LOCATION	ITEM	ACTION	REMARKS
		Touch black lead to the metal portion of one connector shell. Touch red lead to each of the six pins. Reading should be infinity.	If meter does not give correct reading, repair or replace the wires.
	m. J6 wiring harness (6)	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table shown below, test cable. Start with J6-L and work down. All readings should be zero ohms.	

5-14. POWER DISTRIBUTION UNIT - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS

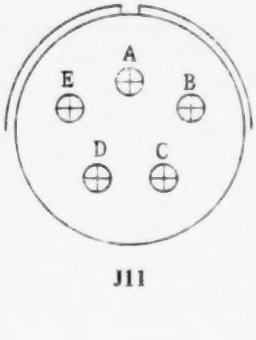
From		To	
Connector	Pin	TB1 and TB2	Terminal
J6	L	TB2	6
J6	F	TB1	18
J6	G	TB1	14
J6	H	TB1	12
J6	R	TB2	2
J6	S	TB1	5
J6	Q	TB1	6



J6

		ACTION	REMARKS
		Touch black lead to the metal portion of one connector shell. Touch red lead to each of the seven pins. Reading should be infinity.	If meter does not give correct reading, repair or replace the J6 wiring harness.
	n. J11 wiring harness (7)	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table shown below, test cable. Start with J11-A and work down. All readings should be zero ohms.	

From		To	
Connector	Pin	TB1	Terminal
J11	A	TB1	6
J11	B	TB1	10
J11	C	TB1	18



J11

5-14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		Touch black lead to the metal portion of one connector shell. Touch red lead to each of the three pins. Reading should be infinity.	If meter does not give correct reading, repair or replace the J11 wiring harness.
	o. PDU wiring harness (8)	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table shown below, test cable. Start with XK3-1 and work down. All readings should be zero ohms.	If meter does not give correct reading, repair or replace the PDU wiring harness.

From		To	
XK3	1	TB2	4
XK3	1	XK3	8
XK3	2	TB2	1
XK3	3	TB1	16
XK3	6	TB1	17
XK3	7	XK3	8
CR1	A	TB1	1
CR2	A	TB1	2
CR1	K	TB1	4
CR2	K	TB1	3
TB2	5	TB1	10

5-14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

From		To	
K2	X	TB2	9
K2	X	TB1	15
K2	Y	TB1	9
K1	X	TB2	11
K1	X	TB1	13
K1	Y	TB1	8
TB2	5	3-E1	

REMOVE

NOTE

Power distribution unit does not have to be removed to replace or repair individual components. Remove PDU only if the enclosure is being replaced.

LOCATION	ITEM	ACTION	REMARKS
3. PDU	a. W1 power cable (9)	Disconnect connector P1 from connector J1 on PDU.	
	b. W5 cable (10)	Disconnect connector P6 from connector J6 on PDU.	
	c. W6 cable	Remove.	See paragraph 4-10.
	d. W7 signal cable	Remove.	See paragraph 5-18.
	e. W8 signal cable	Remove.	See paragraph 5-19.
	f. W9 power cable	Remove.	See paragraph 5-16.
	g. W10 power cable	Remove.	See paragraph 5-17.
	h. K1 and K2 contactors	Remove.	See paragraph 5-15.

5-14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	i. K3 relay	Remove.	See paragraph 5-20.
	j. Diodes CR1 and CR2 (4), two hex nuts (11), two terminal lugs (12), two nonmetallic spacers (13), and four flat plastic washers (14)	Remove. Unsolder wires at top of diode. Using 3/8-inch open-end wrench, remove hex nut. Remove terminal lug, nonmetallic spacer, and flat plastic washer. Remove diode. Repeat procedure for second diode.	
	k. 3-E1 ground terminal stud (15), three hex nuts (16), four lockwashers (17), five flat washers (18), three ground wires (19), and wingnut (20)	Remove. Using 9/16-inch open-end wrench, hold the hex nut closest to the inside of the PDU enclosure (1). Using another 9/16-inch open-end wrench, remove the other hex nut on the inside of the PDU enclosure. Remove lockwasher, flat washers, and ground wires.	
		Remove wingnut, lockwasher, flat washers, and ground wire on outside of PDU enclosure. Using 9/16-inch open-end wrench, hold the hex nut closest to the inside of the PDU enclosure. Using another 9/16-inch open-end wrench, remove the hex nut and lockwasher on the outside of the PDU enclosure. Lift out ground terminal stud, and remove remaining lockwasher and hex nut.	

5-14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	l. PDU enclosure (1), four hex head capscrews (21), four lock-spring washers (22), four flat washers (23), and four lockwashers (24)	Remove. Using 1/2-inch socket and socket wrench handle, remove hex head capscrews, lock-spring washers, flat washers, and lockwashers.	
	m. J1 wiring harness (5) terminal lugs, and terminal screws (25)	Remove. Tag terminal lugs. Using 1/4-inch flat-tip screwdriver, remove terminal screws and disconnect terminal lugs from TB2 terminals 1 and 2.	
	n. J1 wiring harness (5), four screws (26), four hex nuts (27), four lock-spring washers (28), and EMI gasket (29)	Remove. Using no. 2 cross-tip screwdriver and 3/8-inch open-end wrench, remove J1 wiring harness, screws, hex nuts, lock-spring washers, and EMI gasket.	
	o. J6 wiring harness (6) terminal lugs, and terminal screws (25)	Remove. Using 1/4-inch flat-tip screwdriver, remove terminal screws and disconnect terminal lugs from TB1 terminals 5, 6, 12, 14, and 18 and TB2 terminals 2 and 6.	
	p. J6 wiring harness (6), four screws (30), four lock-spring washers (31), four hex nuts (32), and EMI gasket (33)	Remove. Using 5/16-inch socket and socket wrench handle, and no. 1 cross-tip screwdriver, remove J6 wiring harness, screws, lock-spring washers, hex nuts, and EMI gasket.	

5–14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	q. J11 wiring harness (7) terminal lugs, and terminal screws (25)	Remove. Tag terminal lugs. Using 1/4-inch flat-tip screwdriver, remove terminal screws and disconnect terminal lugs from TB1 terminals 6, 10, and 18.	
	r. J11 wiring harness (7), four screws (34), four hex nuts (35), four lock-spring washers (36), and EMI gasket (37)	Remove. Using 1/4-inch socket and socket wrench handle, and no. 1 cross-tip screwdriver, remove J11 wiring harness, screws, hex nuts, lock-spring washers, and EMI gasket.	
	s. PDU wiring harness (8) terminal lugs, terminal screws (25), relay socket (38), two nuts (39), and two standoffs (40)	Remove. Tag terminal lugs. Using 1/4-inch flat-tip screwdriver, remove terminal screws and disconnect terminal lugs at TB1 terminals 1, 2, 3, 4, 8, 9, 10, 13, 15, 16, and 17; and TB2 terminals 1, 4, 5, 9, and 11. Using 1/4-inch offset flat-tip screwdriver, remove standoffs, nuts, and relay socket.	
4. PDU cover	Stud assembly (3) and retaining washer (41)	Remove. Using hand hammer, tap assembly from inside cover until it is freed from retaining washer.	
5. PDU	a. Four screws (42), four lock-spring washers (43), TB1 (44), and marker strip (45)	Remove. Using no. 2 cross-tip screwdriver, remove screws, lock-spring washers, TB1, and marker strip.	

5-14. POWER DISTRIBUTION UNIT - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	b. Four screws (46), four lock-spring washers (47), TB2 (48), and marker strip (49)	Remove. Using no. 2 cross-tip screwdriver, remove screws, lock-spring washers, TB2, and marker strip.	
	c. Four hex nuts (50), four lock-spring washers (51), enclosure panel (52), and four spacers (53)	Remove. Using 3/8-inch socket socket wrench handle, and no. 2 cross-tip screwdriver, remove hex nuts, lock-spring washers, enclosure panel, and spacers.	
	d. Receptacle (55) and rivet (56)	Remove. Using hand hammer and solid center punch, remove rivet and receptacle.	

REPAIR

WARNING

Avoid contact with soldering iron and soldered parts. Severe burns may result.

NOTE

Do not attempt to splice wires from J1-A, J1-E, J1-C, or J1-G to K2 contactor.

LOCATION	ITEM	ACTION	REMARKS
6. J1 wiring harness	Damaged wire	Using hand wire stripper, strip 1/2-inch of insulation off each end of damaged wire. Place new and damaged wires together and twist tightly. Using soldering set, apply solder to splice. Tape splice using electrical tape.	

5-14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

NOTE

Repair of J6 wiring harness is limited to splicing one or two wires. If more than two wires are damaged, replace harness. Do not attempt to splice K1 or K2 wiring or ground wire.

	LOCATION	ITEM	ACTION	REMARKS
7.	J6 wiring harness	Damaged wire	Using hand wire stripper, strip 1/2-inch of insulation off each end of damaged wire. Place new and damaged wires together and twist tightly. Using soldering set, apply solder to splice. Tape splice using electrical tape.	

NOTE

Repair of J11 wiring harness is limited to splicing one wire. If more than one wire is damaged, replace the harness.

	LOCATION	ITEM	ACTION	REMARKS
8.	J11 wiring harness	Damaged wire	Using hand wire stripper, strip 1/2-inch of insulation off each end of damaged wire. Place new and damaged wires together and twist tightly. Using soldering set, apply solder to splice. Tape splice using electrical tape.	
9.	PDU cover	Shielding sealing strip (54)	a. Repair. Using the old shielding sealing strip as a guide, cut correct lengths of new shielding sealing strip with pocketknife and diagonal cutting pliers. b. With pocketknife, remove all shielding sealing strips from inside PDU cover. Scrape off all adhesive.	

5-14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		c. Begin with one of the long shielding sealing strips. Peel off backing paper from rubber part of shielding sealing strip. Apply shielding sealing strip to inside of PDU cover with metal shielding toward the middle of the PDU cover. Using pocketknife, cut holes in rubber part of shielding sealing strip for stud assemblies.	
		d. Cut shielding sealing strip on a 45° angle at corners.	
		e. Cut and apply second long shielding sealing strip in the same way.	
		f. Cut the short shielding sealing strips to fit against the long shielding sealing strips. Peel off backing paper from rubber part of shielding sealing strips. Apply adhesive-sealant to 45° cuts. Apply short shielding sealing strips to PDU cover ensuring that the wire shielding sections meet. Using pocketknife, cut holes in rubber part of shielding sealing	

5-14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		strip for stud assemblies. Apply conductive adhesive to wire mesh joints. Rubber edges and wire joints must bond tightly.	
		g. Allow conductive adhesive to cure for 24 hours at 60°F (16°C) or higher.	
		h. With pocketknife, cut 1/2-inch square holes in rubber part of shield for each stud assembly.	

WARNING

Avoid contact with soldering iron and soldered parts. Severe burns may result.

NOTE

Repair of PDU wiring harness is limited to splicing one or two wires. If more than two wires are damaged, replace harness. Do not attempt to splice K1 or K2 wiring or ground wire.

LOCATION	ITEM	ACTION	REMARKS
10. PDU wiring harness	Damaged wire	Repair. Using hand wire stripper, strip 1/2-inch of insulation off each end of damaged wire. Place new and damaged wires together and twist tightly. Using soldering set, apply solder to splice. Tape splice using electrical tape.	
REPLACE			
11. PDU cover	Stud assembly (3) and retaining washer (41)	Replace. Place stud assembly through hole in cover and place cover on flat surface.	

5–14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		Using hand hammer and 3/8-inch deep style socket, tap retaining washer to secure stud assemblies.	
12. PDU	a. Receptacle (55) and rivet (56)	Replace. Aline receptacle with hole in enclosure. Using hand hammer, install rivet.	
	b. Four spacers (53), enclosure panel (52), four lock-spring washers (51), and four hex nuts (50)	Replace. Position spacer over studs on back inside of PDU enclosure. Put enclosure panel in place. Secure with lock-spring washers and hex nuts. Using 3/8-inch socket, socket wrench handle, and no. 2 cross-tip screwdriver, tighten hex nuts.	
	c. Marker strip (49), TB2 (48), four lock-spring washers (47), and four screws (46)	Replace. Aline holes in marker strip and TB2 with mounting holes in enclosure panel. Secure with screws and lock-spring washers. Using no. 2 cross-tip screwdriver, tighten screws.	
	d. Marker strip (45), TB1 (44), four lock-spring washers (43), and four screws (42)	Replace. Aline holes in marker strip and TB1 with mounting holes in enclosure panel. Secure with screws and lock-spring washers. Using no. 2 cross-tip screwdriver, tighten screws.	
	e. PDU wiring harness (8) terminal lugs,	Replace. Using 1/4-inch flat-tip screwdriver, install terminal screws	

5–14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	terminal screws (25), two standoffs (40), two nuts (39), and relay socket (38)	to connect appropriate terminal lugs to terminals at TB1 terminals 1, 2, 3, 4, 8, 9, 10, 13, 15, 16, and 17; and TB2 terminals 1, 4, 5, 9, and 11; and 3-E1. Solder appropriate wires to relay socket XK3 terminals 1, 2, 3, 6, 7, and 8. Remove tags.	
	f. J11 wiring harness (7), EMI gasket (37), four screws (34), four lockspring washers (36), four hex nuts (35)	Replace. Thread J11 wiring harness through appropriate opening in PDU enclosure with EMI gasket in place between PDU enclosure and J11 connector. Using 1/4-inch socket and socket wrench handle, and no. 1 cross-tip screwdriver, install J11 wiring harness, EMI gasket, screws, lockspring washers, and hex nuts.	
	g. J11 wiring harness (7), terminal lugs, and terminal screws (25)	Replace. Using 1/4-inch flat-tip screwdriver, install terminal screws to connect J11 wiring harness terminal lugs to TB1 terminals 6, 10, and 18; tighten terminal lugs.	
	h. J6 wiring harness (6), EMI gasket (33), four screws (30), four lockspring washers (31), and four hex nuts (32)	Replace. Thread J6 wiring harness through appropriate opening on PDU enclosure with EMI gasket in place between PDU enclosure and J6 connector. Using 5/16-inch socket and socket wrench handle, and	

5-14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		no. 1 cross-tip screwdriver, install J6 wiring harness, EMI gasket, screws, lockspring washers, and hex nuts.	
	i. J6 wiring harness (6), terminal lugs, and terminal screws (25)	Replace. Using 1/4-inch flat-tip screwdriver, connect J6 wiring harness terminal lugs to TB1 terminals 5, 6, 12, 14, and 18, and TB2 terminals 2 and 6. Tighten terminal screws.	
	j. J1 wiring harness (5), EMI gasket (29), four screws (26), four lockspring washers (28), and four hex nuts (27)	Replace. Thread J1 wiring harness through appropriate opening in PDU enclosure with EMI gasket in place between PDU enclosure and J1 connector. Using no. 2 cross-tip screwdriver and 3/8-inch open-end wrench, install J1 wiring harness, EMI gaskets, screws, lockspring washers, and hex nuts.	
	k. J1 wiring harness (5) terminal lugs and terminal screws (25)	Using 1/4-inch flat-tip screwdriver, install terminal screws to reconnect J1 wiring harness terminal lugs to TB2 terminals 1 and 2.	
	l. PDU enclosure (1), four hex head capscrews (21), four lockspring washers	Replace. Place lockspring washers and flat washers over hex head capscrews. Aline mounting holes in PDU	

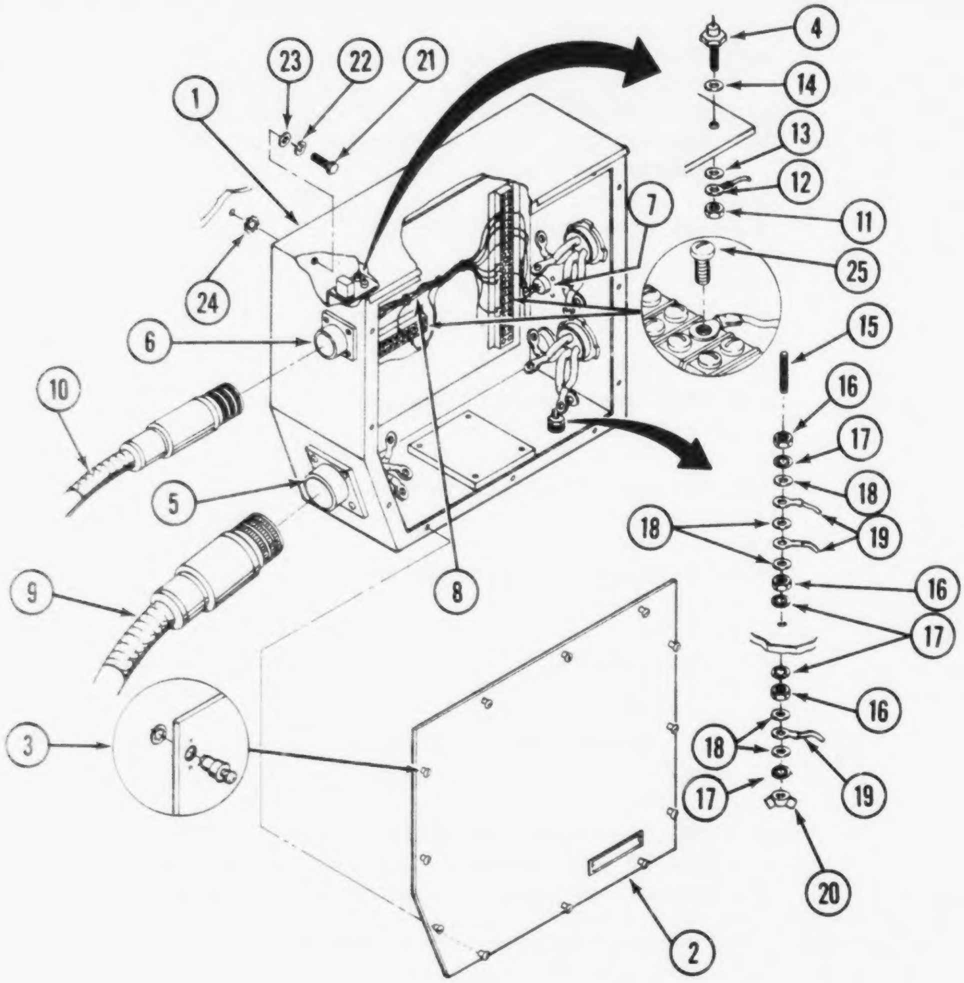
5-14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	(22), four flat washers (23), and four lockwashers (24)	enclosure and lockwashers with appropriate holes in pallet frame. Using 1/2-inch socket and socket wrench handle, install hex head capscrews.	
	m. 3-E1 ground terminal stud (15), three hex nuts (16), four lockwashers (17), five flat washers (18), three ground wires (19), and wingnut (20)	Place hex nut on ground terminal stud with lockwasher between hex nut and inside of PDU enclosure. Place lockwasher over ground terminal stud on outside of PDU enclosure, and place hex nut on ground terminal stud over lockwasher. Tighten hex nuts by holding one with 9/16-inch open-end wrench while tightening other hex nut. Attach two flat washers and ground wire to ground terminal stud on outside of PDU enclosure and secure by attaching lockwasher and wingnut. Place three flat washers and two ground wires on ground terminal inside PDU enclosure and secure by attaching lock-washer and hex nut.	
	n. Diodes CR1 and CR2 (4), two terminal lugs (12), two nonmetallic spacers (13), four flat plastic washers (14), and two hex nuts (11)	Replace. Install terminal lug, nonmetallic spacer, and flat plastic washers. Using 3/8-inch open-end wrench, install hex nut and tighten. Solder wire to top of diode. Repeat procedure for second diode.	Heatsink as required.

5-14. POWER DISTRIBUTION UNIT - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	o. K3 relay	Replace.	See paragraph 5-20.
	p. K1 and K2 contactors	Replace.	See paragraph 5-15.
	q. W10 power cable	Replace.	See paragraph 5-17.
	r. W9 power cable	Replace.	See paragraph 5-16.
	s. W8 signal cable	Replace.	See paragraph 5-19.
	t. W7 signal cable	Replace.	See paragraph 5-18.
	u. W6 cable	Replace.	See paragraph 4-10.
	v. W5 cable (10)	Connect connector P6 to connector J6 on PDU.	
	w. W1 power cable (9)	Connect connector P1 to connector J1 on PDU.	
	x. PDU cover (2) and 12 stud assemblies (3)	Install. Using 1/4-inch flat-tip screwdriver, secure stud assemblies.	

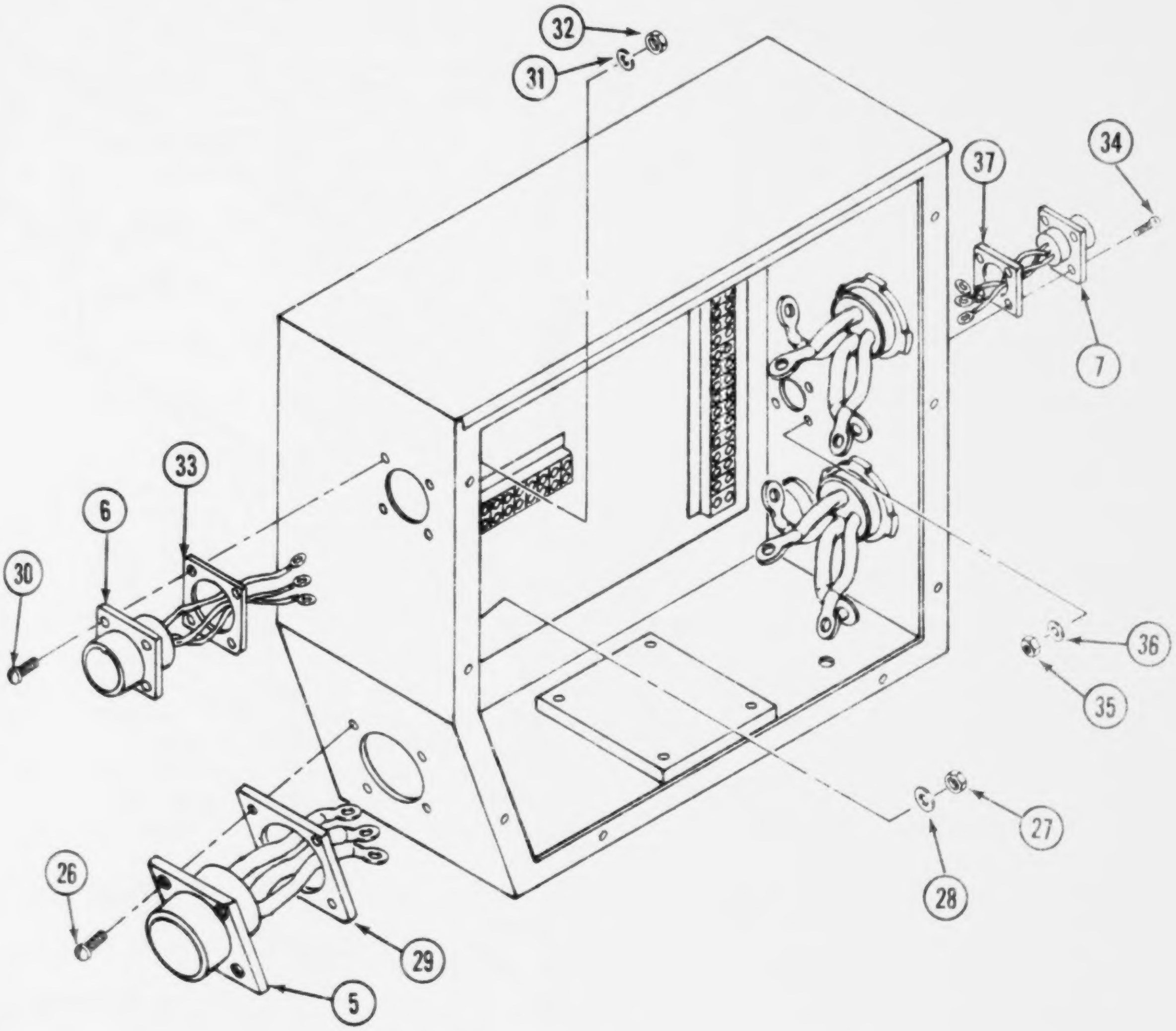
5-14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)


23
22
21
1
4
14
13
12
11
7
25
24
15
6
16
17
10
18
18
19
5
16
9
8
17
16
3
18
19
17
20
2

LEGEND

1	PDU ENCLOSURE
2	PDU COVER
3	STUD ASSEMBLY
4	DIODES CR1 AND CR2
5	J1 WIRING HARNESS
6	J6 WIRING HARNESS
7	J11 WIRING HARNESS
8	PDU WIRING HARNESS
9	W1 POWER CABLE
10	W5 CABLE
11	HEX NUT
12	TERMINAL LUG
13	NONMETALLIC SPACER
14	FLAT PLASTIC WASHER
15	3-E1 GROUND TERMINAL STUD
16	HEX NUT
17	LOCKWASHERS
18	FLAT WASHERS
19	GROUND WIRES
20	WINGNUT
21	HEX HEAD CAPSCREW
22	LOCK-SPRING WASHER
23	FLAT WASHER
24	LOCKWASHER
25	TERMINAL SCREW

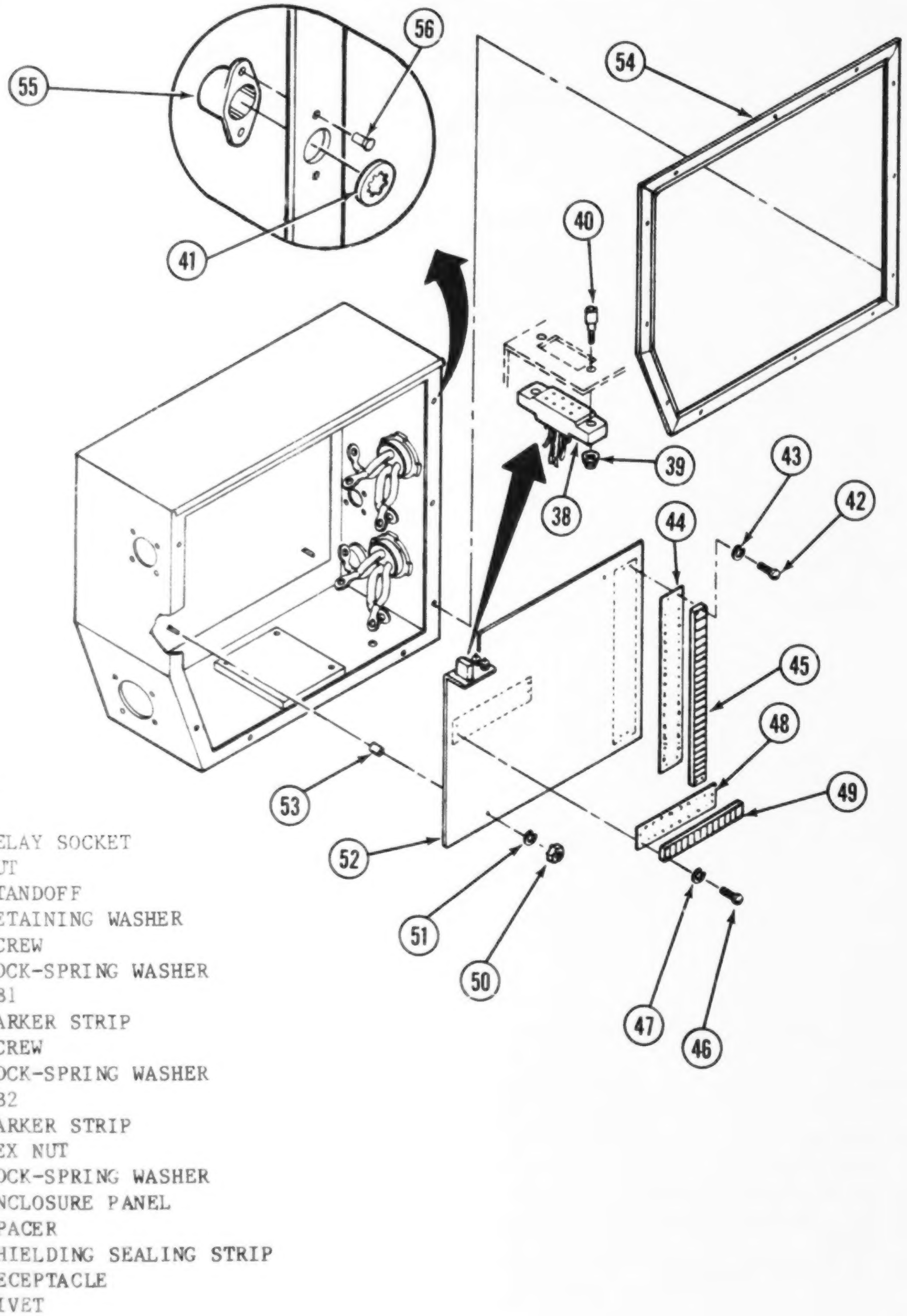
5-14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)


32
31
34
37
7
33
6
30
36
35
27
28
26
29
5

LEGEND

26	SCREW	32	HEX NUT
27	HEX NUTS	33	EMI GASKET
28	LOCK-SPRING WASHER	34	SCREW
29	EMI GASKET	35	HEX NUT
30	SCREW	36	LOCK-SPRING WASHER
31	LOCK-SPRING WASHER	37	EMI GASKET

5-14. POWER DISTRIBUTION UNIT – MAINTENANCE INSTRUCTIONS (CONT)


56
55
54
41
40
39
38
43
42
44
45
48
49
53
52
51
50
47
46

LEGEND

38	RELAY SOCKET
39	NUT
40	STANDOFF
41	RETAINING WASHER
42	SCREW
43	LOCK-SPRING WASHER
44	TB1
45	MARKER STRIP
46	SCREW
47	LOCK-SPRING WASHER
48	TB2
49	MARKER STRIP
50	HEX NUT
51	LOCK-SPRING WASHER
52	ENCLOSURE PANEL
53	SPACER
54	SHIELDING SEALING STRIP
55	RECEPTACLE
56	RIVET

5-15. K1 OR K2 CONTACTOR - MAINTENANCE INSTRUCTIONS

This task covers:
a. Remove
b. Test
c. Replace

INITIAL SETUP

Test Equipment

Power supply, 6130-00-249-2748

Tools and Special Tools

- Contact maintenance shop equipment, truck mounted, 4940-00-294-9518
  - No. 1 offset cross-tip screwdriver
  - 5/8-inch socket, 3/8-inch square drive
  - Socket wrench handle, 1/4-inch square drive
  - Socket wrench handle, 3/8-inch square drive
  - No. 2 cross-tip screwdriver
- 1/4-inch deep style socket, 1/4-inch square drive, 5120-00-775-6981

Materials/Parts

Tags, item 14, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
5-14	PDU cover removed.

General Safety Instructions

WARNING

- Hazardous electrical voltages exist within system. Do not connect or remove electrical cables while power is on. Serious electric shock, burns, or death may result.
- Hazardous electrical voltages exist when using power supply for test procedures. Do not exceed voltage required for tests or disconnect power supply positive and/or negative cables while power is on. Serious electrical shock, burns, or death may result.

CAUTION

Do not adjust power supply to voltage higher than required for test being performed. Power supply or component being tested may be damaged.

5–15. K1 OR K2 CONTACTOR – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. PDU	a. Terminal cover (1), four screws (2), and four lockwashers (3)	Remove. Using no. 1 offset cross-tip screwdriver, remove screws and lockwashers. Remove terminal covers.	
	b. K1 (4) or K2 (5) contactor terminal lugs, six nuts (6), six lockwashers (7), and six flat washers (8)	Using 5/8-inch socket and socket wrench handle, remove nuts, lockwashers, and flat washers. Tag and disconnect terminal lugs A1, B1, C1, A2, B2, and C2.	
	c. K1 contactor (4), four screws (9), and four lock-spring washers (10)	Using no. 2 cross-tip screwdriver, remove screws, lock-spring washers, and K1 contactor to allow access to studs X and Y.	
	d. K1 (4) or K2 (5) contactor terminal lugs, two nuts (11), and two lockwashers (12)	Using 1/4-inch deep style socket and socket wrench handle, remove nuts and lockwashers. Tag and disconnect terminal lugs from studs X and Y.	
	e. K2 contactor (5), four screws (9), and four lock-spring washers (10)	Using no. 2 cross-tip screwdriver, remove screws, lock-spring washers, and K2 contactor.	

5-15. K1 OR K2 CONTACTOR - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
TEST			

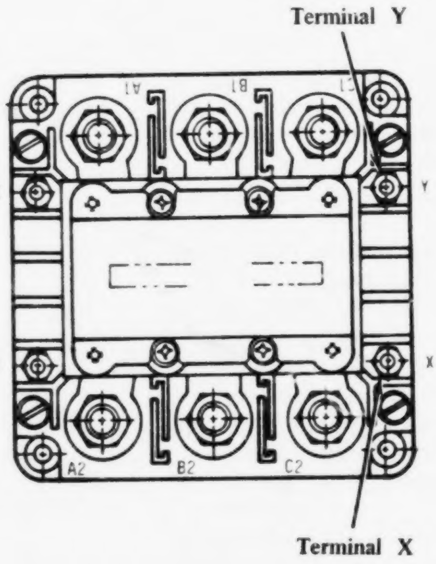
WARNING

Hazardous electrical voltages exist when using power supply for test procedures. Do not exceed voltage required for tests or disconnect power supply positive and/or negative cables while power is on. Serious electrical shock, burns, or death may result.

CAUTION

Do not adjust power supply to voltage higher than required for test being performed. Power supply or component being tested may be damaged.

LOCATION	ITEM	ACTION	REMARKS
2. PDU	K1 (4) and K2 (5) contactor	a. Test. Set power supply for 5 amp, 24 vdc output. Ensure power supply is off.	
		b. Connect power supply positive lead to K1/K2 contactor terminal X. Connect power supply negative lead to K1/K2 contactor terminal Y.	
		c. Turn power supply on.	
		d. Set multimeter to ohms RX1 scale.	
		e. Take pin-to-pin reading shown in table below. All readings should be ohms. If any reading is greater than one ohm, replace the contactor.	

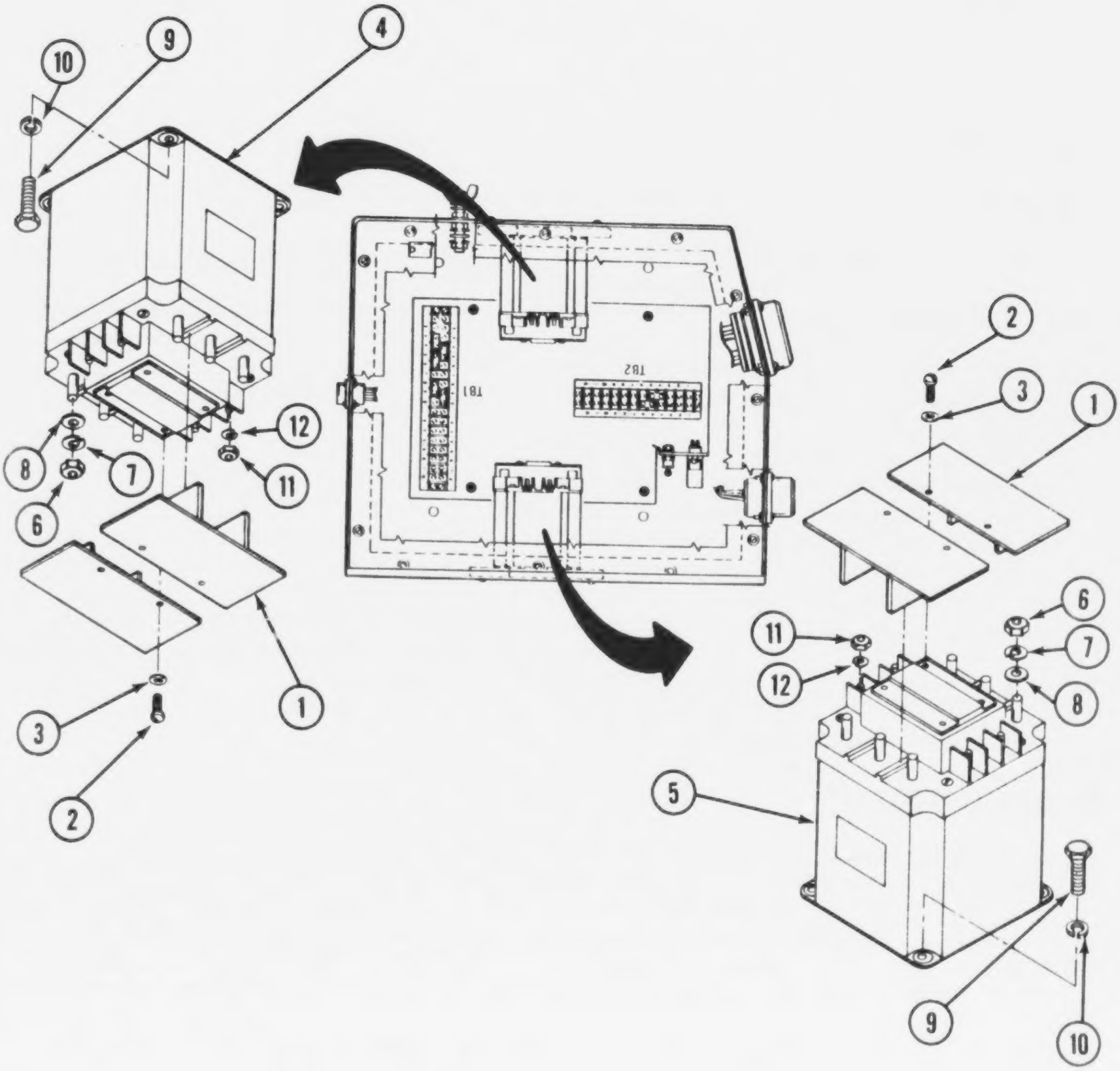


5-15. K1 OR K2 CONTACTOR - MAINTENANCE INSTRUCTIONS (CONT)

From	To	Reading
A1	A2	0 ohms
B1	B2	0 ohms
C1	C2	0 ohms

LOCATION	ITEM	ACTION	REMARKS
REPLACE			
3. PDU	a. K2 contactor (5), four screws (9), and four lock-spring washers (10)	Using no. 2 cross-tip screwdriver, install screws, lock-spring washers, and K2 contactor.	
	b. K1 (4) or K2 (5) contactor terminal lugs, two nuts (11), and two lockwashers (12)	Replace. Reconnect terminal lugs to terminal studs X and Y and remove tags. Using 1/4-inch deep style socket and socket wrench handle, install nuts and lockwashers.	
	c. K1 contactor (4), four screws (9), and four lock-spring washers (10)	Using no. 2 cross-tip screwdriver, install screws, lock-spring washers, and K1 contactor.	
	d. K1 (4) or K2 (5) contactor terminal lugs, six flat washers (8), six lockwashers (7), and six nuts (6)	Reconnect terminal lugs to terminal studs A1, B1, C1, A2, B2, and C2, and remove tags. Using 5/8-inch socket and socket wrench handle, attach lockwashers, flat washers, and nuts.	
	e. Terminal cover (1), four lockwashers (3), and four screws (2)	Aline holes in terminal cover with holes in contactor. Place mounting screws with washers in the mounting holes. Tighten using no. 1 offset cross-tip screwdriver.	

5-15. K1 OR K2 CONTACTOR - MAINTENANCE INSTRUCTIONS (CONT)


10
9
4
8
7
6
12
11
1
3
2
TB1
TB2
2
3
1
6
11
7
12
8
5
9
10

LEGEND

1	TERMINAL COVER	7	LOCKWASHER
2	SCREW	8	FLAT WASHER
3	LOCKWASHER	9	SCREW
4	K1 CONTACTOR	10	LOCK-SPRING WASHER
5	K2 CONTACTOR	11	NUT
6	NUT	12	LOCKWASHER

5-16. W9 POWER CABLE – MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Test
- c. Replace

INITIAL SETUP

Test Equipment

Multimeter, 6625-00-999-6282

Tools and Special Tools

Contact maintenance shop equipment, truck mounted, 4940-00-294-9518
- No. 1 offset cross-tip screwdriver
- 5/8-inch open-end wrench
- 9/16-inch open-end wrench
- Hand hammer
- Size 4 drive pin punch

Spanner wrench, 5120-00-293-1455

Materials/Parts

Tags, item 14, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
5-14	PDU cover removed.

General Safety Instructions

WARNING

Hazardous electrical voltages exist within system. Do not connect or remove electrical cables while power is on. Serious electric shock, burns, or death may result.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Rear generator set	W9 power cable (1)	Disconnect connector P30-1 from J30 400HZ OUTPUT connector on output connector panel of rear generator set.	

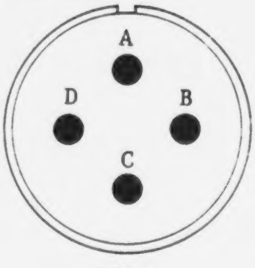
5-16. W9 POWER CABLE - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
2. K1 contactor	a. Four screws (2), four lockwashers (3), and terminal cover (4)	Remove. Using no. 1 offset cross-tip screwdriver, remove screws and lockwashers. Lift off terminal cover.	
	b. Three hex nuts (5), three lockwashers (6), three flat washers (7), and three terminal lugs (8)	Remove. Tag terminal lugs. Using 5/8-inch open-end wrench, remove hex nuts, lockwashers, flat washers, and terminal lugs at K1-A1, -B1, and -C1.	
3. PDU	a. Hex nut (9), lockwasher (10), flat washer (11), and ground wire (12)	Remove. Using 9/16-inch open-end wrench, remove hex nut, lockwasher, flat washer, and ground wire from 3-E1 ground terminal.	
	b. W9 power cable (1) and conduit locknut (13)	Remove. Using hand hammer and drive pin punch, remove conduit locknut, and remove cable, with cable sealing grip attached, from PDU.	
4. W9 power cable	a. Nut (14), gland washer (15), and cable grip (16)	Loosen. Using spanner wrench, unscrew nut, and slide nut, gland washer, and cable grip up on W9 power cable.	
	b. Interconnecting body (17), EMI gasket (18), body (19), bushing (20), gland washer (21) cable grip (16), gland washer (15), and nut (14)	Remove. Using spanner wrench, unscrew interconnecting body. Remove EMI gasket, body, bushing, gland washer, interconnecting body, cable grip, gland washer, and nut from W9 power cable.	

5–16. W9 POWER CABLE – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
TEST			
5. Rear generator set and PDU	W9 power cable	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table shown below, test cable. Start with pin A and work down. All readings should be zero ohms.	

From		To	
Connector	Pin	Contactor	Terminal
P30-1	A	K1	A1
P30-1	B	K1	B1
P30-1	C	K1	C1
P30-1	D	E1	



P30-1

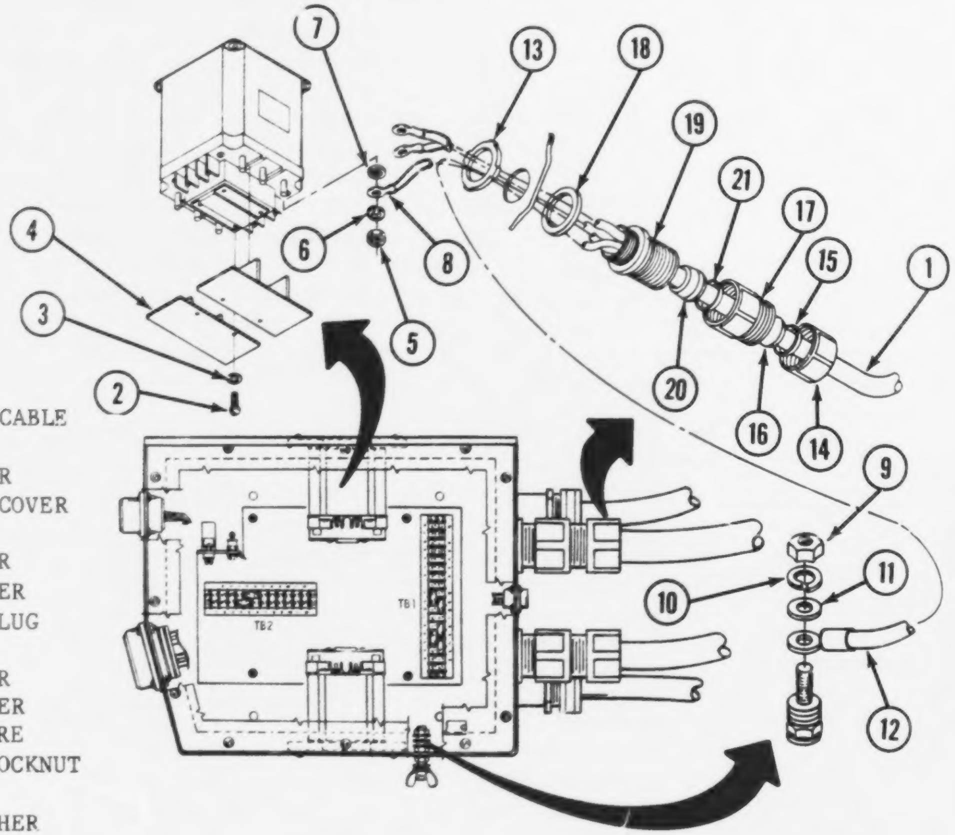
LOCATION	ITEM	ACTION	REMARKS
		Touch black lead to the metal portion of one connector shell. Touch red lead to each of the corresponding pins. Reading should be infinity.	If cable does not give proper readings, replace W9 power cable.
REPLACE			
6. W9 power cable	a. Nut (14), gland washer (15), cable grip (16), interconnecting body (17), gland washer (21), bushing (20), body (19), and EMI gasket (18)	Slide nut, gland washer, cable grip, interconnecting body, gland washer, bushing, body, and EMI gasket onto W9 power cable.	
	b. Interconnecting body (17), gland washer (21), bushing (20),	Adjust body on W9 power cable so that enough cable is out the end of the body to connect	

5-16. W9 POWER CABLE – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	and body (19)	to K1 contactor. Place bushing into body and gland washer against bushing. Using spanner wrench, install interconnecting body on body. Tighten.	
	c. Cable grip (16), gland washer (15), and nut (14)	Place cable grip against interconnecting body and gland washer against cable grip. Using spanner wrench, install nut on interconnecting body. Tighten.	
7. PDU	a. W9 power cable (1), EMI gasket (18), and conduit locknut (13)	Run end of W9 power cable through PDU with EMI gasket between PDU and body (19). Slide conduit locknut over end of W9 power cable. Using hand hammer and drive pin punch, install conduit locknut. Tighten.	
	b. Ground wire (12), flat washer (11), lockwasher (10), and hex nut (9)	Install. Using 9/16-inch open-end wrench, install ground wire, flat washer, lockwasher, hex nut to 3-E1 ground terminal.	
8. K1 contactor	a. Three terminal lugs (8), three flat washers (7), three lockwashers (6), and three hex nuts (5)	Install. Using 5/8-inch open-end wrench, install terminal lugs P30-1-C to K1-A1, P30-1-B to K1-B1, P30-1-A to K1-C1, flat washers, lockwashers, and hex nuts. Remove tags. Tighten.	

5-16. W9 POWER CABLE - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	b. Terminal cover (4), four lockwashers (3), and four screws (2)	Install. Using no. 1 offset cross-tip screwdriver, install terminal cover, lockwashers, and screws. Tighten.	
9. Rear generator set	W9 power cable (1)	Connect connector P30-1 to J30 400HZ OUTPUT connector on output connector panel of rear generator set.	



LEGEND

1 W9 POWER CABLE
2 SCREW
3 LOCKWASHER
4 TERMINAL COVER
5 HEX NUT
6 LOCKWASHER
7 FLAT WASHER
8 TERMINAL LUG
9 HEX NUT
10 LOCKWASHER
11 FLAT WASHER
12 GROUND WIRE
13 CONDUIT LOCKNUT
14 NUT
15 GLAND WASHER
16 CABLE GRIP
17 INTERCONNECTING BODY
18 EMI GASKET
19 BODY
20 BUSHING
21 GLAND WASHER

5-17. W10 POWER CABLE – MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Test
- c. Replace

INITIAL SETUP

Test Equipment

Multimeter, 6625-00-999-6282

Tools and Special Tools

- Contact maintenance shop equipment, truck mounted, 4940-00-294-9518
  - No. 1 offset cross-tip screwdriver
  - 5/8-inch open-end wrench
  - Hand hammer
  - Size 4 drive pin punch
  - 9/16-inch open-end wrench
- Spanner wrench, 5120-00-293-1455

Materials/Parts

Tags, item 14, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
5-14	PDU cover removed.

General Safety Instructions

WARNING

Hazardous electrical voltages exist within system. Do not connect or remove electrical cables while power is on. Serious electric shock, burns, or death may result.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Front generator set	W10 power cable (1)	Disconnect connector P30-2 from 400HZ OUTPUT connector J30 on output connector panel of front generator set.	

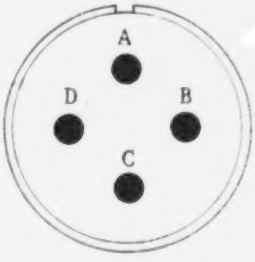
5-17. W10 POWER CABLE – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION		ITEM	ACTION	REMARKS
2. K2 contactor	a.	Four screws (2), four lockwashers (3), and terminal cover (4)	Remove. Using no. 1 offset cross-tip screwdriver, remove screws and lockwashers. Lift off terminal cover.	
	b.	Three hex nuts (5), three lockwashers (6), three flat washers (7), and three terminal lugs (8)	Remove. Tag terminal lugs. Using 5/8-inch open-end wrench, remove hex nuts, flat washers, lockwashers, and terminal lugs at K2-A1, -B1, and -C1.	
3. PDU	a.	Hex nut (9), lockwasher (10), flat washer (11), and ground wire (12)	Remove. Using 9/16-inch open-end wrench, remove hex nut, lockwasher, flat washer, and ground wire.	
	b.	W10 power cable (1) and conduit locknut (16)	Remove. Using hand hammer and drive pin punch, remove conduit locknut, and remove W10 power cable, with sealing grip attached, from PDU.	
4. W10 power cable	a.	Nut (17), gland washer (18), and cable grip (19)	Remove. Using spanner wrench, unscrew nut and slide nut, gland washer, and cable grip up on W10 power cable.	
	b.	EMI gasket (20), body (21), bushing (22), gland washer (23), interconnecting body (24), cable grip (19), gland washer (18), and nut (17)	Remove. Using spanner wrench, unscrew interconnecting body. Remove EMI gasket, body, bushing, gland washer, interconnecting body, cable grip, gland washer, and nut from W10 power cable.	

5-17. W10 POWER CABLE - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
5. Pallet frame	Three screws (13), three lock-spring washers (14), and three clamps (15)	Remove. Using no. 1 offset cross-tip screwdriver, remove screws, lock-spring washers, and clamps.	If cable is being replaced, remove clamp from W10 power cable and save for reuse.
TEST			
6. Front generator set and PDU	W10 power cable (1)	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table shown below, test cable. Start with pin A and work down. All readings should be zero ohms.	

From		To	
Connector	Pin	Contactor	Terminal
P30-2	A	K2	A1
P30-2	B	K2	B1
P30-2	C	K2	C1
P30-2	D	E1	



P30-2

		Touch black lead to the metal portion of one connector shell. Touch red lead to each of the corresponding pins. Reading should be infinity.	If cable does not give proper readings, replace W10 power cable.

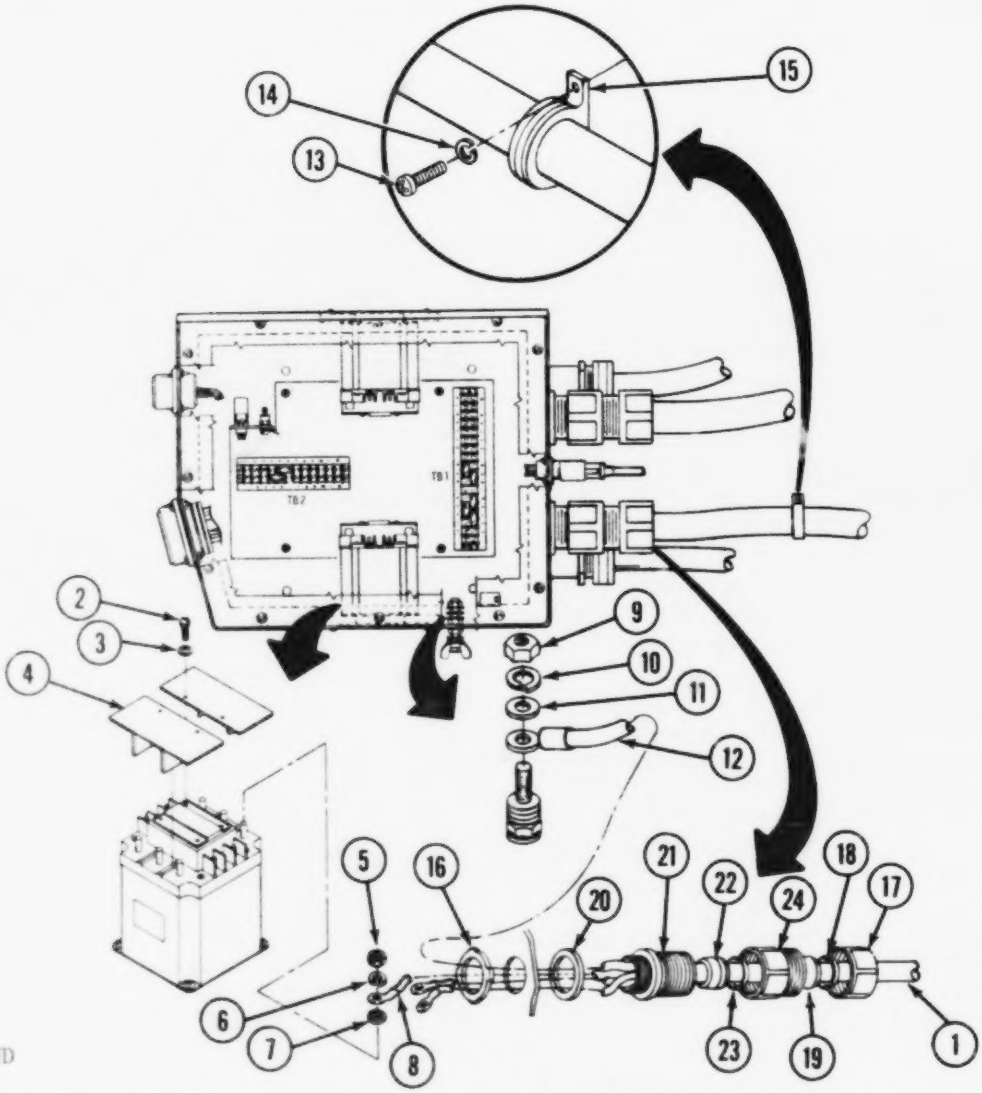
5-17. W10 POWER CABLE - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
REPLACE			
7. W10 power cable	a. Nut (17), gland washer (18), cable grip (19), interconnecting body (24), gland washer (23), bushing (22), body (21), and EMI gasket (20)	Slide nut, gland washer, cable grip, interconnecting body, gland washer, bushing, body, and EMI gasket onto W10 power cable.	
	b. Interconnecting body (24), gland washer (23), bushing (22), and body (21)	Adjust body on W10 power cable so that enough cable is out the end of the body to connect to K2 contactor. Place bushing into body and gland washer against bushing. Using spanner wrench, install interconnecting body on body. Tighten.	
	c. Cable grip (19), gland washer (18), and nut (17)	Place cable grip against interconnecting body and gland washer against cable grip. Using spanner wrench, install nut on interconnecting body. Tighten.	
8. PDU	a. W10 power cable (1), EMI gasket (20), and conduit locknut (16)	Run end of W10 power cable through PDU with EMI gasket between PDU and body (21). Slide conduit locknut over end of W10 power cable. Using hand hammer and drive pin punch, install conduit locknut. Tighten.	

5-17. W10 POWER CABLE - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	b. Ground wire (12), flat washer (11), lockwasher (10), and hex nut (9)	Place ground wire, flat washer, lockwasher, and and hex nut on 3-E1 ground terminal. Using 9/16-inch open-end wrench, tighten hex nut.	
9. Pallet frame	Three clamps (15), three lock-spring washers (14), and three screws (13)	Install. Using no. 1 offset cross-tip screwdriver, install clamps, lock-spring washers, and screws.	
10. K2 contactor	a. Three terminal lugs (8), three flat washers (7), three lockwashers (6), and three hex nuts (5)	Install. Using 5/8-inch open-end wrench, install terminal lugs P30-2-C to K2-A1, P30-2-B to K2-B1, P30-2-A to K2-C1, flat washers, lockwashers, and hex nuts. Tighten and remove tags.	
	b. Terminal cover (4), four lockwashers (3), and four screws (2).	Install. Using no. 1 offset cross-tip screwdriver, install terminal cover, lockwashers, and screws. Tighten.	
11. Front generator set	W10 power cable (1)	Connect connector P30-2 to 400HZ OUTPUT connector J30 on front generator output connector panel.	

5-17. W10 POWER CABLE – MAINTENANCE INSTRUCTIONS (CONT)


14
15
13
TB1
TB2
2
3
4
9
10
11
12
5
16
20
21
22
24
18
17
6
7
8
23
19
1

LEGEND

1	W10 POWER CABLE	13	SCREW
2	SCREW	14	LOCK-SPRING WASHER
3	LOCKWASHER	15	CLAMP
4	TERMINAL COVER	16	CONDUIT LOCKNUT
5	HEX NUT	17	NUT
6	LOCKWASHER	18	GLAND WASHER
7	FLAT WASHER	19	CABLE GRIP
8	TERMINAL LUG	20	EMI GASKET
9	HEX NUT	21	BODY
10	LOCKWASHER	22	BUSHING
11	FLAT WASHER	23	GLAND WASHER
12	GROUND WIRE	24	INTERCONNECTING BODY

5-18. W7 SIGNAL CABLE - MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Test
- c. Replace

INITIAL SETUP

Test Equipment

Multimeter, 6625-00-999-6282

Tools and Special Tools

Contact maintenance shop equipment, truck mounted, 4940-00-294-9518
  - 1/4-inch flat-tip screwdriver
  - Hand hammer
  - Size 4 drive pin punch

Conduit slip-joint pliers 5120-00-624-8065

Materials/Parts

Tags, item 14, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
5-14	PDU cover removed.

General Safety Instructions

WARNING

Hazardous electrical voltages exist within system. Do not connect or remove electrical cables while power is on. Serious electric shock, burns, or death may result.

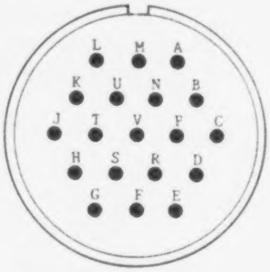
LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Rear generator set	W7 signal cable (1)	Disconnect connector P12-1 from REMOTE CONTROL connector J12 on output connector panel of rear generator set.	

5-18. W7 SIGNAL CABLE – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
2. PDU	a. W7 signal cable terminal lugs (2), and terminal screws (3)	Remove. Tag W7 signal cable terminal lugs. Using 1/4-inch flat-tip screwdriver, remove terminal screws and disconnect W7 signal cable terminal lugs at TB1 terminals 1, 8, 13, 14, and 16.	
	b. W7 signal cable (1) and conduit locknut (4)	Using hand hammer and drive pin punch, remove conduit locknut and remove W7 signal cable, with sealing grip attached, from PDU.	
3. W7 signal cable	a. Nut (5), gland washer (6), and cable grip (7)	Using conduit slip-joint pliers, unscrew nut and slide nut, gland washer, and cable grip up on W7 signal cable.	
	b. EMI gasket (8), body (9), bushing (10), gland washer (11), interconnecting body (12), cable grip (7), gland washer (6), and nut (5)	Using conduit slip-joint pliers, unscrew interconnecting body. Remove EMI gasket, body, bushing, gland washer, interconnecting body, cable grip, gland washer, and nut from W7 signal cable.	
TEST			
4. Rear generator set and PDU	W7 signal cable (1)	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table shown below, test cable. Start with pin D and work down. All readings should be zero ohms.	

5-18. W7 SIGNAL CABLE - MAINTENANCE INSTRUCTIONS (CONT)

From		To	
Connector	Pin	TB1	Terminal
P12-1	D	TB1	13
P12-1	L	TB1	16
P12-1	J	TB1	1
P12-1	T	TB1	14
P12-1	K	TB1	8



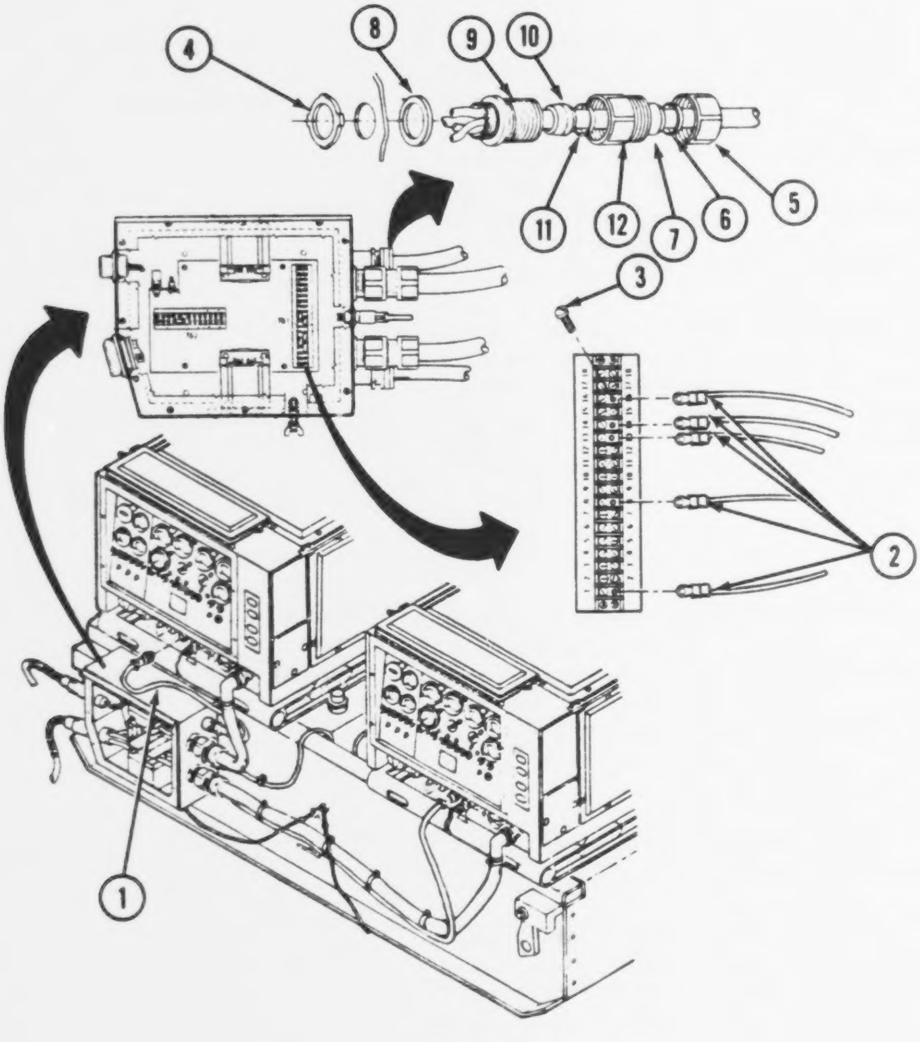
P12-1

LOCATION	ITEM	ACTION	REMARKS
		Touch black lead to the metal portion of the connector shell. Touch red lead to each of the five terminal lugs. Readings should be infinity.	If cable does not give proper readings, replace W7 signal cable.
REPLACE			
5. W7 signal cable	a. Nut (5), gland washer (6), cable grip (7), interconnecting body (12), gland washer (11), bushing (10), body (9), and EMI gasket (8)	Slide nut, gland washer, cable grip, interconnecting body, gland washer, bushing, body, and EMI gasket on W7 signal cable.	
	b. Interconnecting body (12), gland washer (11), bushing (10), and body (9)	Adjust body on W7 signal cable so that enough cable is out the end of body to connect to terminal board 1. Place bushing into body and gland washer against bushing. Using conduit slip-joint pliers, install interconnecting body on body. Tighten.	

5-18. W7 SIGNAL CABLE – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	c. Cable grip (7), gland washer (6), and nut (5)	Place cable grip against interconnecting body and gland washer against cable grip. Using conduit slip-joint pliers, install nut on interconnecting body. Tighten.	
6. PDU	a. W7 signal cable (1), EMI gasket (8), and conduit locknut (4)	Run end of W7 signal cable through PDU with EMI gasket between PDU and body (9). Slide conduit locknut over end of W7 signal cable. Using hand hammer and drive pin punch, install conduit locknut. Tighten.	
	b. W7 signal cable terminal lugs (2) and terminal screws (3)	Install. Using 1/4-inch flat-tip screwdriver, connect W7 signal cable terminal lugs P12-1-J to TB1 terminal 1, P12-1-K to TB1 terminal 8, P12-1-D to TB1 terminal 13, P12-1-T to TB1 terminal 14, and P12-1-L to TB1 terminal 16. Remove tags.	
7. Rear generator set	W7 signal cable (1)	Connect connector P12-1 to REMOTE CONTROL connector J12 on output connector panel of rear generator set.	

5-18. W7 SIGNAL CABLE - MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1	W7 SIGNAL CABLE
2	W7 SIGNAL CABLE TERMINAL LUG
3	TERMINAL SCREW
4	CONDUIT LOCKNUT
5	NUT
6	GLAND WASHER
7	CABLE GRIP
8	EMI GASKET
9	BODY
10	BUSHING
11	GLAND WASHER
12	INTERCONNECTING BODY

5-19. W8 SIGNAL CABLE – MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Test
- c. Replace

INITIAL SETUP

Test Equipment

Multimeter, 6625-00-999-6282

Tools and Special Tools

Contact maintenance shop equipment, truck mounted, 4940-00-294-9518
- 1/4-inch flat-tip screwdriver
- No. 1 cross-tip screwdriver
- Hand hammer
- Size 4 drive pin punch

Conduit slip-joint pliers, 5120-00-624-8065

Materials/Parts

Tags, item 14, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
5-14	PDU cover removed.

General Safety Instructions

WARNING

Hazardous electrical voltages exist within system. Do not connect or remove electrical cables while power is on. Serious electric shock, burns, or death may result.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Front generator set	W8 signal cable (1)	Disconnect connector P12-2 from REMOTE CONTROL connector J12 on output connector panel of the front generator set.	

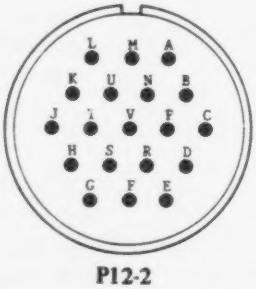
5–19. W8 SIGNAL CABLE – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
2. PDU	W8 signal cable terminal lugs (2) and terminal screws (3)	Remove. Tag W8 signal cable terminal lugs. Using 1/4-inch flat-tip screwdriver, remove terminal screws, and disconnect W8 signal cable terminal lugs at TB1 terminals 2, 9, 12, 15, and 17.	
3. Pallet frame	W8 signal cable (1), three screws (4), three lock-spring washers (5), and three clamps (6)	Remove. Using no. 1 cross-tip screwdriver, remove screws, lock-spring washers, and clamps.	If cable is being replaced, remove clamps from W8 signal cable, and save for reuse.
4. PDU	W8 signal cable (1) and conduit locknut (7)	Using hand hammer and drive pin punch, remove conduit locknut and W8 signal cable, with sealing grip attached, from PDU.	
5. W8 signal cable	a. Nut (8), gland washer (9), and cable grip (10)	Using conduit slip-joint pliers, unscrew nut and slide nut, gland washer, and cable grip up on W8 signal cable.	
	b. EMI gasket (11), body (12), bushing (13), gland washer (14), interconnecting body (15), cable grip (10), gland washer (9), and nut (8)	Using conduit slip-joint pliers, unscrew interconnecting body. Remove EMI gasket, body, bushing, gland washer, interconnecting body, cable grip, gland washer, and nut from W8 signal cable.	

5-19. W8 SIGNAL CABLE – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
TEST			
6. Front generator set and PDU	W8 signal cable (1)	Test. Prepare multimeter for continuity testing using the ohms RX1 scale. Using the wiring table shown below, test cable. Start with pin D and work down. All readings should be zero ohms.	

From		To	
Connector	Pin	TB1	Terminal
P12-2	D	TB1	15
P12-2	L	TB1	17
P12-2	J	TB1	2
P12-2	T	TB1	12
P12-2	K	TB1	9



P12-2

LOCATION	ITEM	ACTION	REMARKS
		Touch black lead to the metal portion of the connector shell. Touch red lead to each of the five terminal lugs. Reading should be infinity.	If cable does not give proper readings, replace W8 signal cable.
REPLACE			
7. W8 signal cable	a. Nut (8), gland washer (9), cable grip (10), interconnecting body (15), gland washer (14), bushing (13), body (12), and EMI gasket (11)	Slide nut, gland washer, cable grip, interconnecting body, gland washer, bushing, body, and EMI gasket onto W8 signal cable.	
	b. Interconnecting body (15), gland washer (14),	Adjust body on W8 signal cable so that enough cable is out the end of	

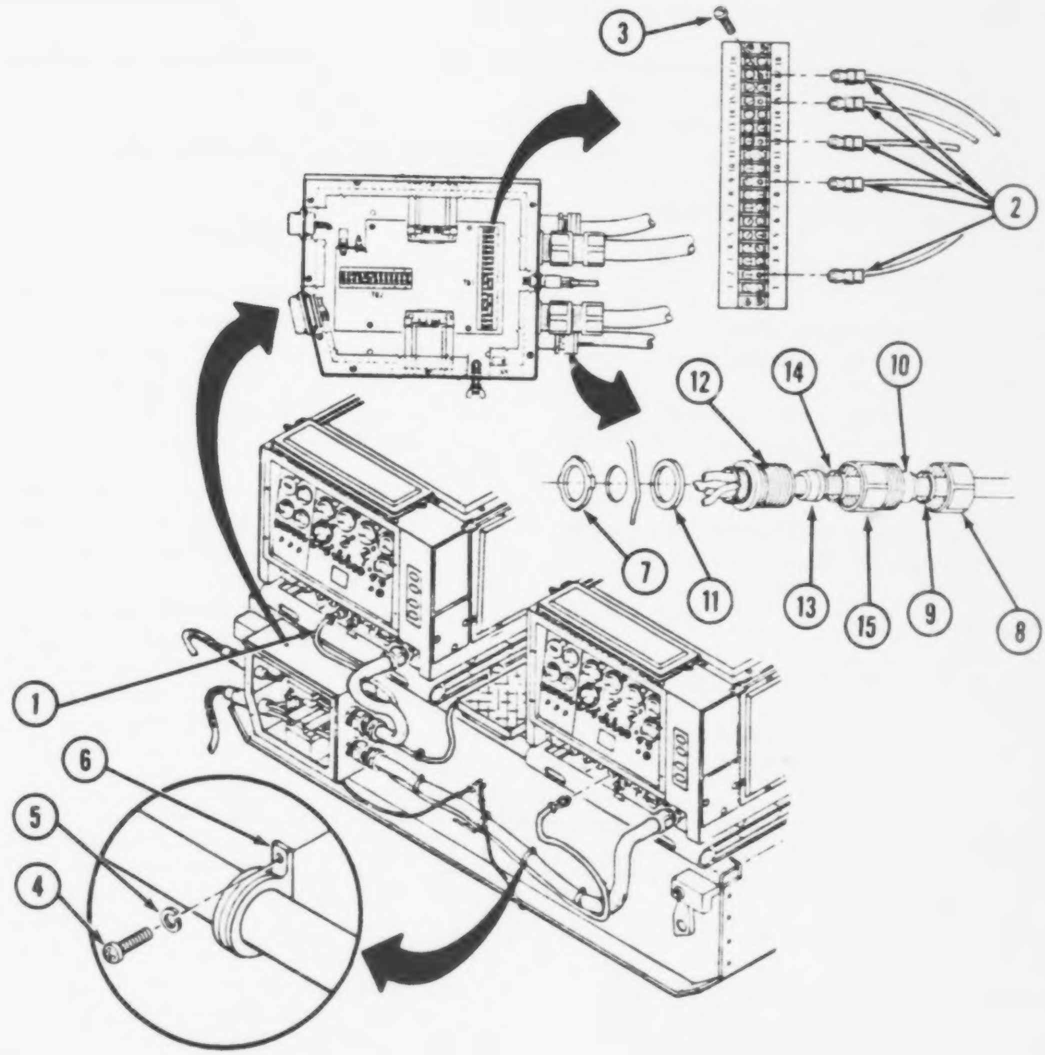
5-19. W8 SIGNAL CABLE – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	bushing (13), and body (12)	body to connect to terminal board 1. Place bushing into body and gland washer against bushing. Using conduit slip-joint pliers, install interconnecting body on body. Tighten.	
	c. Cable grip (10), gland washer (9), and nut (8)	Place cable grip against interconnecting body and gland washer against cable grip. Using conduit slip-joint pliers, install nut on interconnecting body. Tighten.	
8. PDU	a. W8 signal cable (1), EMI gasket (11), and conduit locknut (7)	Run end of W8 signal cable through PDU with EMI gasket between PDU and body (12). Slide conduit locknut over end of W8 signal cable. Using hand hammer and drive pin punch, install conduit locknut. Tighten.	
	b. W8 signal cable terminal lugs (2) and terminal screws (3)	Install. Using 1/4-inch flat-tip screwdriver, connect W8 signal cable terminal lugs P12-2-J to TB1 terminal 2, P12-2-K to TB1 terminal 9, P12-2-T to TB1 terminal 12, P12-2-D to TB1 terminal 15, and P12-2-L to TB1 terminal 17. Install terminal screws and remove tags.	

5-19. W8 SIGNAL CABLE – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
9. Pallet	W8 signal cable (1), three clamps (6), three lock-spring washers (5), and three screws (4)	Install. Using no. 1 cross-tip screwdriver, install clamps, lock-spring washers, and screws.	
10. Front generator set	W8 signal cable (1)	Connect connector P12-2 to REMOTE CONTROL connector J12 on output connector panel of front generator set.	

5-19. W8 SIGNAL CABLE – MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1	W8 SIGNAL CABLE
2	W8 SIGNAL CABLE TERMINAL LUG
3	TERMINAL SCREW
4	SCREW
5	LOCK-SPRING WASHER
6	CLAMP
7	CONDUIT LOCKNUT
8	NUT
9	GLAND WASHER
10	CABLE GRIP
11	EMI GASKET
12	BODY
13	BUSHING
14	GLAND WASHER
15	INTERCONNECTING BODY

5-20. K3 RELAY – MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Test
- c. Replace

INITIAL SETUP

Test Equipment

Power supply, 6130-00-249-2748

Tools and Special Tools

Contact maintenance shop equipment, truck mounted, 4940-00-294-9518
  1/8-inch flat-tip screwdriver

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
5-14	PDU cover removed.

General Safety Instructions

WARNING

- Hazardous electrical voltages exist within system. Do not proceed with testing while generators are running. Serious electric shock, burns, or death may result.
- Hazardous electrical voltages exist when using power supply for test procedures. Do not exceed voltage required for tests or disconnect power supply positive and/or negative cables while power is on. Serious electric shock, burns, or death may result.

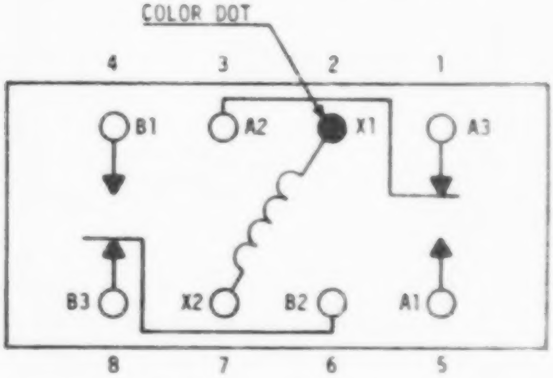
LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. PDU	K3 relay (1), two screws (2), and two lockwashers (3)	Remove. Using 1/8-inch flat-tip screwdriver, remove relay.	
TEST			
2. PDU	K3 relay (1)	a. Test. Set power supply for 1 amp, 24 vdc output. Ensure power supply is off.	

5-20. K3 RELAY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		b. Connect power supply positive lead to relay pin X1 (2). Connect power supply negative lead to relay pin X2 (7). See illustration below for pin locations.	
		c. Turn power supply on.	
		d. Set multimeter to ohms RX1 scale.	
		e. Take pin-to-pin readings shown in tables below. All readings should be zero ohms.	If any reading is greater than 10 ohms, replace relay.

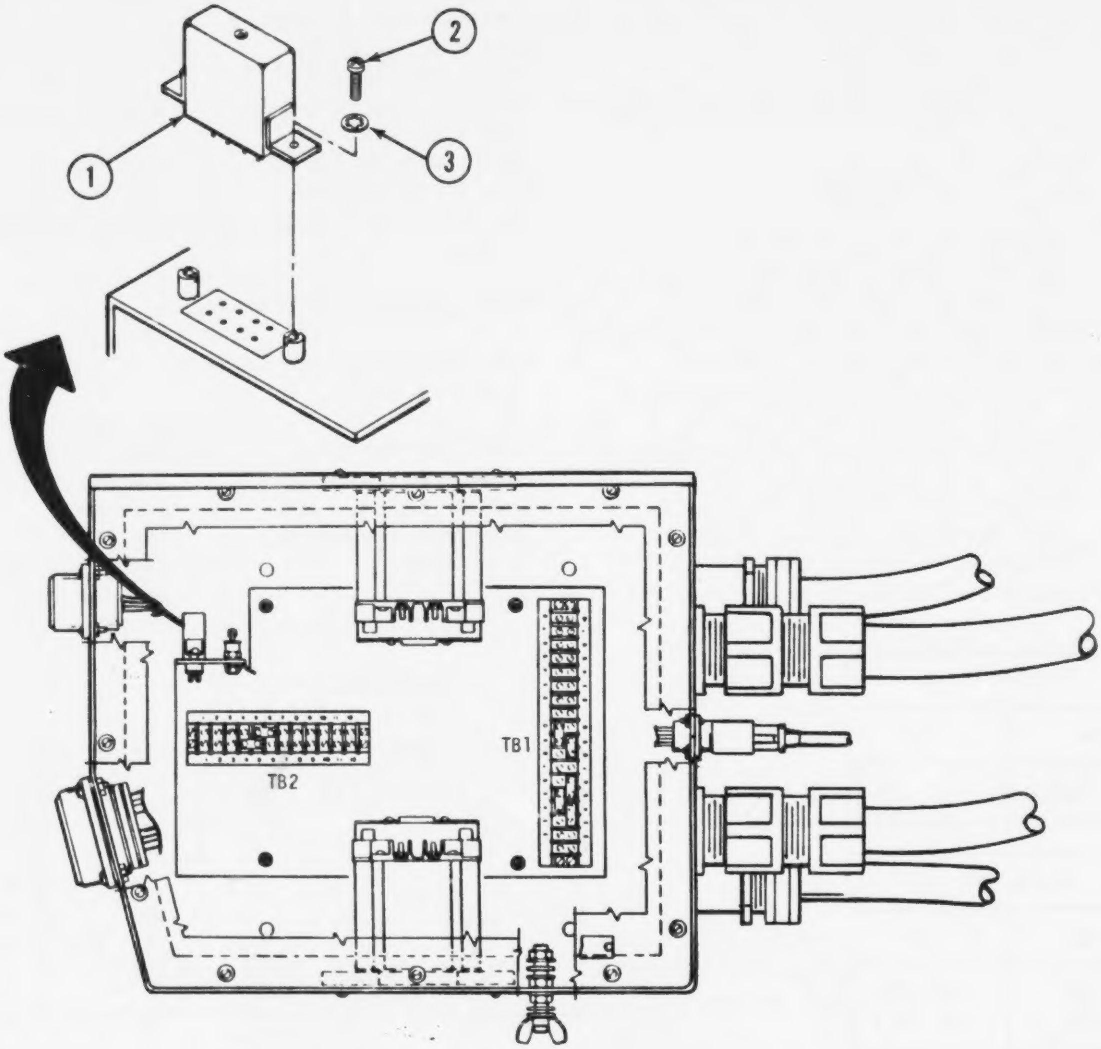
Deenergize	
From	To
A2 (3) B2 (6)	A3 (1) B3 (8)

Energize	
From	To
A2 (3) B2 (6)	A1 (5) B1 (4)



LOCATION	ITEM	ACTION	REMARKS
REPLACE			
3. PDU	K3 relay (1), two screws (2), and two lockwashers (3)	Replace. Using 1/8-inch flat-tip screwdriver, replace relay.	

5–20. K3 RELAY – MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1 K3 RELAY
2 SCREW
3 LOCKWASHER

best copy available

5-21. PALLET FRAME – MAINTENANCE INSTRUCTIONS

This task covers:
- a. Remove
- b. Repair
- c. Replace

INITIAL SETUP

Tools and Special Tools

- Contact maintenance shop equipment, truck mounted, 4940-00-294-9518
  - 1/2-inch socket, 1/2-inch square female drive
  - Reversible socket wrench ratchet, 1/2-inch drive
  - 3/4-inch socket, 1/2-inch square drive
  - Pry bar
  - 10-inch adjustable wrench
  - 10-inch pipe wrench
  - No. 2 cross-tip screwdriver
  - 7/16-inch socket, 1/2-inch square female drive
  - 5-inch slip-joint pliers
  - Hand hammer
  - Chisel
  - 3/4-inch open-end wrench
- Welding shop, trailer mounted, 3431-00-935-7821

Materials/Parts

Sealing compound, item 12, appendix D

Personnel Required

Two turbine engine driven generator repairers, MOS 52F
One welder, MOS 44B

Equipment Condition Para	Condition Description
4-9	Generators removed.
4-17	Pallet assembly removed.
4-20	Fuel filter/water separator removed.
4-18	Walkway removed.
5-9	Fuel distribution unit, cables, and ground wire removed.
4-21	Fuel shutoff valves removed.
4-25	Internal fuel lines and fittings removed.
4-23	Solenoid valve assembly removed.
4-24	Fuel check valves removed.
4-18	Fuel tank vents removed.
4-19	Fuel-level sensors removed.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Pallet	a. Eight capscrews (1), eight lockwashers (2), eight flat washers (3), and rear end plate (4)	Remove. Using 1/2-inch socket with reversible socket wrench ratchet, remove capscrews, lockwashers, and flat washers from end plate. Lift rear end plate off.	

5-21. PALLET FRAME - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	b. Eight capscrews (5), eight lockwashers (6), eight flat washers (7), and front end plate (8)	Remove. Using 1/2-inch socket with reversible socket wrench ratchet, remove capscrews, lockwashers, and flat washers from end plate. Lift front end plate off.	

CAUTION

When using pry bar, be careful not to damage fuel tanks.

	c. Eight capscrews (9) and fuel tanks (10)	Remove. Using 3/4-inch socket with reversible socket wrench ratchet, remove capscrews holding primary and secondary fuel tanks in place. Remove fuel tanks.	Use pry bar to spread pallet lips for removal.
2. Primary fuel tank	a. Cotter pin (11) and tee handle (12)	Remove. Using 5-inch slip-joint pliers, remove cotter pin and tee handle.	
	b. Valve gate (13)	Remove. Place 10-inch adjustable wrench on pipe nipple and hold. Place 10-inch pipe wrench on valve gate and remove.	
	c. Pipe nipple (14)	Remove. Place 10-inch adjustable wrench on pipe nipple, and remove from primary fuel tank.	
3. Pallet	a. Two wingnuts (15), two lockwashers (16), two flat washers, (17), bracket plate (18), and sledgehammer (19)	Remove. Using fingers, remove wingnuts, lockwashers, flat washers, bracket plate, and sledgehammer.	

5-21. PALLET FRAME – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	b. Two machine screws (20), two lockwashers (21), and bracket assembly (22)	Remove. Using no. 2 cross-tip screwdriver, remove machine screws, lockwashers, and bracket assembly.	
	c. Machine screw (23), lockwasher (24), and spring clip (25)	Remove. Using no. 2 cross-tip screwdriver, remove machine screw, lockwasher, and spring clip.	
	d. Two ground rod sections (26)	Remove. Using fingers, remove wingnuts (27), lockwashers (28), flat washers (29), plates (30), and ground rod sections.	
	e. Eight capscrews (31), eight lockwashers (32), four ground rod clamps (33)	Remove. Using 7/16-inch socket with reversible socket wrench ratchet, remove capscrews, lockwashers, and ground rod clamps.	
	f. Four bolts (34), four flat washers (35), and four lifting ears (36)	Remove. Using 3/4-inch open-end wrench, remove bolts, flat washers, and lifting ear. Repeat this procedure for remaining three lifting ears.	
	g. Four drive screws (37) and data handling plate (38)	Remove. Using hand hammer and chisel, remove drive screws securing data handling plate to pallet.	
	h. Four drive screws (39) and schematic diagram plate (40)	Remove. Using hand hammer and chisel, remove drive screws securing schematic diagram plate.	

5-21. PALLET FRAME – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	i. Four drive screws (41) and fuel diagram plate (42)	Remove. Using hand hammer and chisel, remove drive screws securing fuel diagram plate.	
	j. Four drive screws (43) and identification plate (44)	Remove. Using hand hammer and chisel, remove drive screws securing identification plate.	
REPAIR			
4. Pallet		NOTE Repair by welding or use helicoil.	
REPLACE			
5. Pallet	a. Four drive screws (43) and identification plate (44)	Replace. Aline holes of plate with pallet frame. Insert drive screws, and tighten using hand hammer.	
	b. Four drive screws (41) and fuel diagram plate (42)	Replace. Aline holes of plate with pallet frame. Insert drive screws, and tighten using hand hammer.	
	c. Four drive screws (39) and schematic diagram plate (40)	Replace. Aline holes of plate with pallet frame. Insert drive screws, and tighten using hand hammer.	
	d. Four drive screws (37) and data handling plate (38)	Replace. Aline holes of plate with pallet frame. Insert drive screws, and tighten using hand hammer.	
	e. Four bolts (34), four flat washers (35), and four lifting ears (36)	Replace. Place flat washer on bolt. Place bolt through mounting hole on outside of pallet. Place lifting	

5-21. PALLET FRAME – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
		ear into slot and push bolts through ear and into pallet frame hole. Tighten using 3/4-inch open-end wrench. Repeat this step for remaining three lifting ears.	
	f. Four ground rod clamps (33), eight lock-washers (32), and eight cap-screws (31)	Replace. Aline ground rod clamp with mounting holes of pallet. Insert capscrews and lockwashers. Tighten capscrews using 7/16-inch socket with reversible socket wrench ratchet. Repeat this step for three remaining ground rod clamps.	
	g. Two ground rod sections (26)	Replace. Place ground rod sections into ground rod clamps (33). Install plates (30), flat washer (29), lockwasher (28), and wingnut (27). Repeat this step for second ground rod section.	
	h. Spring clip (25) lockwasher (24) and machine screw (23)	Replace. Insert machine screw, and lockwasher into spring clip on pallet. Tighten using no. 2 cross-tip screw-driver.	
	i. Bracket assembly (22), two lock-washers (21), and two machine screws (20)	Replace. Insert machine screws and lockwashers into bracket assembly and pallet mounting holes. Tighten using no. 2 cross-tip screwdriver.	

5-21. PALLET FRAME - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	j. Sledgehammer (19), bracket plate (18), two flat washers (17), two lockwashers (16), and two wingnuts (15)	Replace. Install sledgehammer, bracket plate, flat washers, lockwashers, and hand tighten wingnuts.	

NOTE

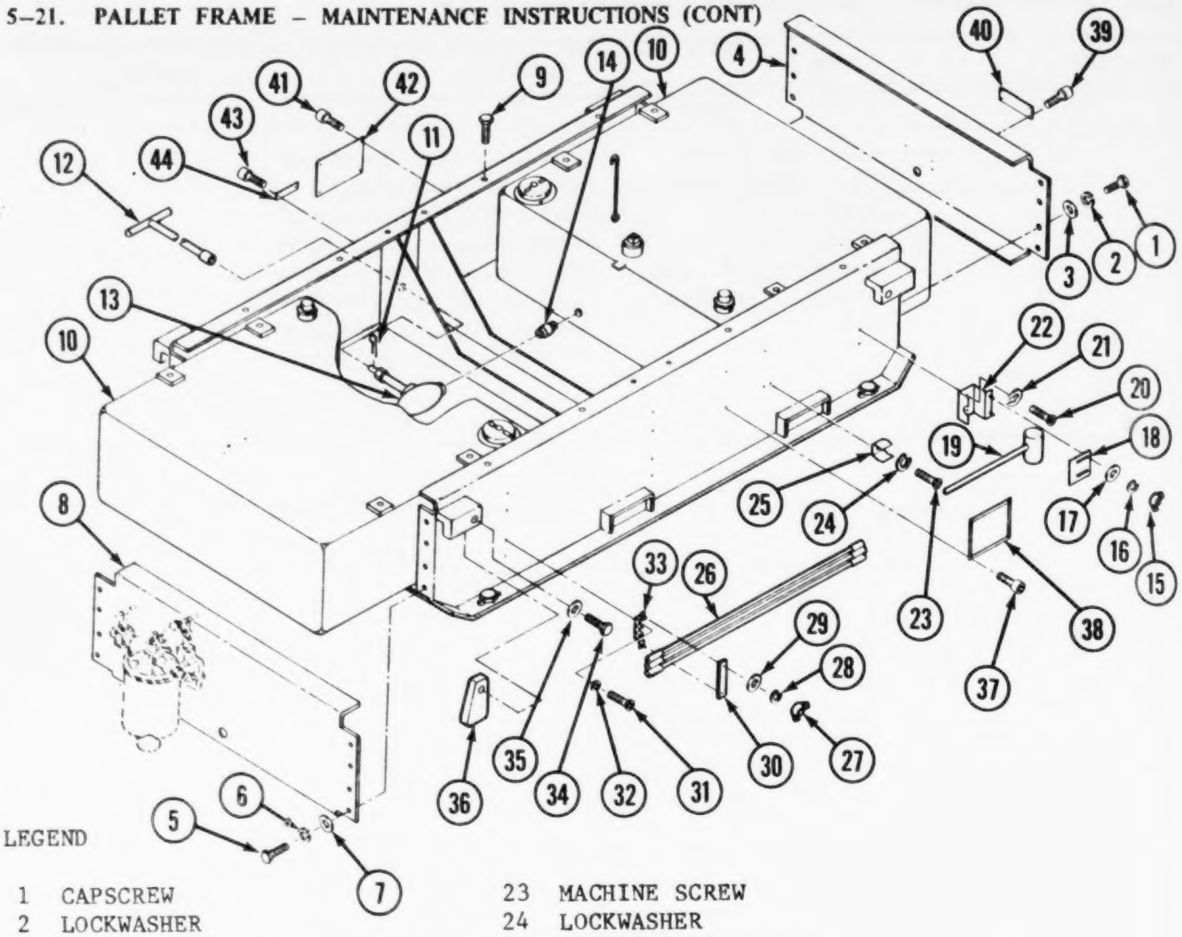
Place thread compound on all threads before installation.

LOCATION	ITEM	ACTION	REMARKS
6. Primary fuel tank	a. Pipe nipple (14)	Replace. Tighten using 10-inch adjustable wrench.	
	b. Valve gate (13)	Replace. Place 10-inch adjustable wrench on pipe nipple and hold. Using 10-inch adjustable wrench, tighten valve gate.	
	c. Tee handle (12) and cotter pin (11)	Replace. Replace tee handle, and insert cotter pin into tee handle and open to secure.	
7. Pallet	a. Fuel tanks (10) and eight capscrews (9)	Replace. Place fuel tanks in pallet frame. Using 3/4-inch socket with reversible socket wrench ratchet, tighten capscrews.	
	b. Eight capscrews (5), eight lockwashers (6), eight flat washers (7), and front end plate (8)	Replace. Aline mounting hole of front end plate with pallet, and insert capscrews, lockwashers, and flat washers. Tighten using 1/2-inch socket with reversible socket wrench ratchet.	

5-21. PALLET FRAME - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	c. Rear end plate (4), eight lockwashers (2), eight flat washers (3), and eight capscrews (1)	Replace. Aline mounting holes of rear end plate with pallet, and insert capscrews, lockwashers, and flat washers. Tighten using 1/2-inch socket with reversible socket wrench ratchet.	

5-21. PALLET FRAME – MAINTENANCE INSTRUCTIONS (CONT)


40
39
4
10
14
9
41
42
43
11
12
44
1
2
3
13
22
21
10
20
19
18
8
25
24
17
16
15
33
26
23
38
29
28
37
30
27
36
35
34
32
31
6
5
7

LEGEND

1	CAPSCREW	23	MACHINE SCREW
2	LOCKWASHER	24	LOCKWASHER
3	FLAT WASHER	25	SPRING CLIP
4	REAR END PLATE	26	GROUND ROD SECTION
5	CAPSCREW	27	WINGNUT
6	LOCKWASHER	28	LOCKWASHER
7	FLAT WASHER	29	FLAT WASHER
8	FRONT END PLATE	30	PLATE
9	CAPSCREW	31	CAPSCREW
10	FUEL TANK	32	LOCKWASHER
11	COTTER PIN	33	GROUND ROD CLAMP
12	TEE HANDLE	34	BOLT
13	VALVE GATE	35	FLAT WASHER
14	PIPE NIPPLE	36	LIFTING EARS
15	WINGNUT	37	DRIVE SCREW
16	LOCKWASHER	38	DATA HANDLING PLATE
17	FLAT WASHER	39	DRIVE SCREW
18	BRACKET PLATE	40	SCHEMATIC DIAGRAM PLATE
19	SLEDGEHAMMER	41	DRIVE SCREW
20	MACHINE SCREW	42	FUEL DIAGRAM PLATE
21	LOCKWASHER	43	DRIVE SCREW
22	BRACKET ASSEMBLY	44	IDENTIFICATION PLATE

5-22. FUEL TANK ASSEMBLY - MAINTENANCE INSTRUCTIONS

This task covers:
a. Remove
b. Replace

INITIAL SETUP

Tools and Special Tools

Contact maintenance shop equipment, truck mounted, 4940-00-294-9518
- No. 2 cross-tip screwdriver
- 18-inch pipe wrench
- 3/4-inch combination box- and open-end wrench
- 15/16-inch combination box- and open-end wrench
- 11/16-inch socket, 1/2-inch square female drive
- Reversible socket wrench ratchet, 1/2-inch drive

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
4-25	Fuel tanks drained.
4-9	Generator sets removed.
5-21	Fuel tanks removed.

General Safety Instructions

WARNING

Do not smoke or permit open flames within 50 feet (15.3 meters) of the fuel tanks during fuel handling operations. This will create a fire hazard.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Primary fuel tank and/or secondary fuel tank	a. Fuel tank cap and strainer assembly (1), five machine screws (2), five lockwashers (3), five flat washers (4), fuel tank filler neck (5), and gasket (6)	Remove. Unscrew fuel tank cap and remove fuel tank cap and strainer assembly. Using no. 2 cross-tip screwdriver, remove machine screws, lockwashers, and flat washers. Lift fuel tank filler neck out of primary fuel tank and/or secondary fuel tank. Remove gasket.	

5-22. FUEL TANK ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	b. Gasket (7)	Remove. Using 1/4-inch flat-tip screwdriver, remove gasket from fuel tank cap (if necessary).	
	c. Fuel-level sensor (8)	Remove. Using 18-inch pipe wrench, remove fuel-level sensor from primary fuel tank and/or secondary fuel tank.	
	d. Fuel-level gage (9)	Remove. Using 18-inch pipe wrench, remove fuel-level gage from primary fuel tank and/or secondary fuel tank.	
	e. Quick-disconnect insert (10)	Remove. Using 3/4-inch combination box- and open-end wrench, hold pipe nipple (11) secure. Place 15/16-inch combination box- and open-end wrench on quick-disconnect insert and remove.	
2. Quick-disconnect insert	Dust cap (12)	Remove. Pull dust cap with retaining ring off insert.	
3. Primary fuel tank and/or secondary fuel tank	a. Pipe nipple (11)	Remove. Using 3/4-inch combination box- and open-end wrench, remove pipe nipple.	
	b. Pipe plug (13)	Remove. Using 11/16-inch socket with reversible socket wrench ratchet, remove pipe plug.	
4. Primary fuel tank and/or secondary fuel tank		Remove.	See paragraph 5-21.

5-22. FUEL TANK ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
REPLACE			
5. Primary fuel tank and/or secondary fuel tank		Replace.	See paragraph 5-21.

CAUTION

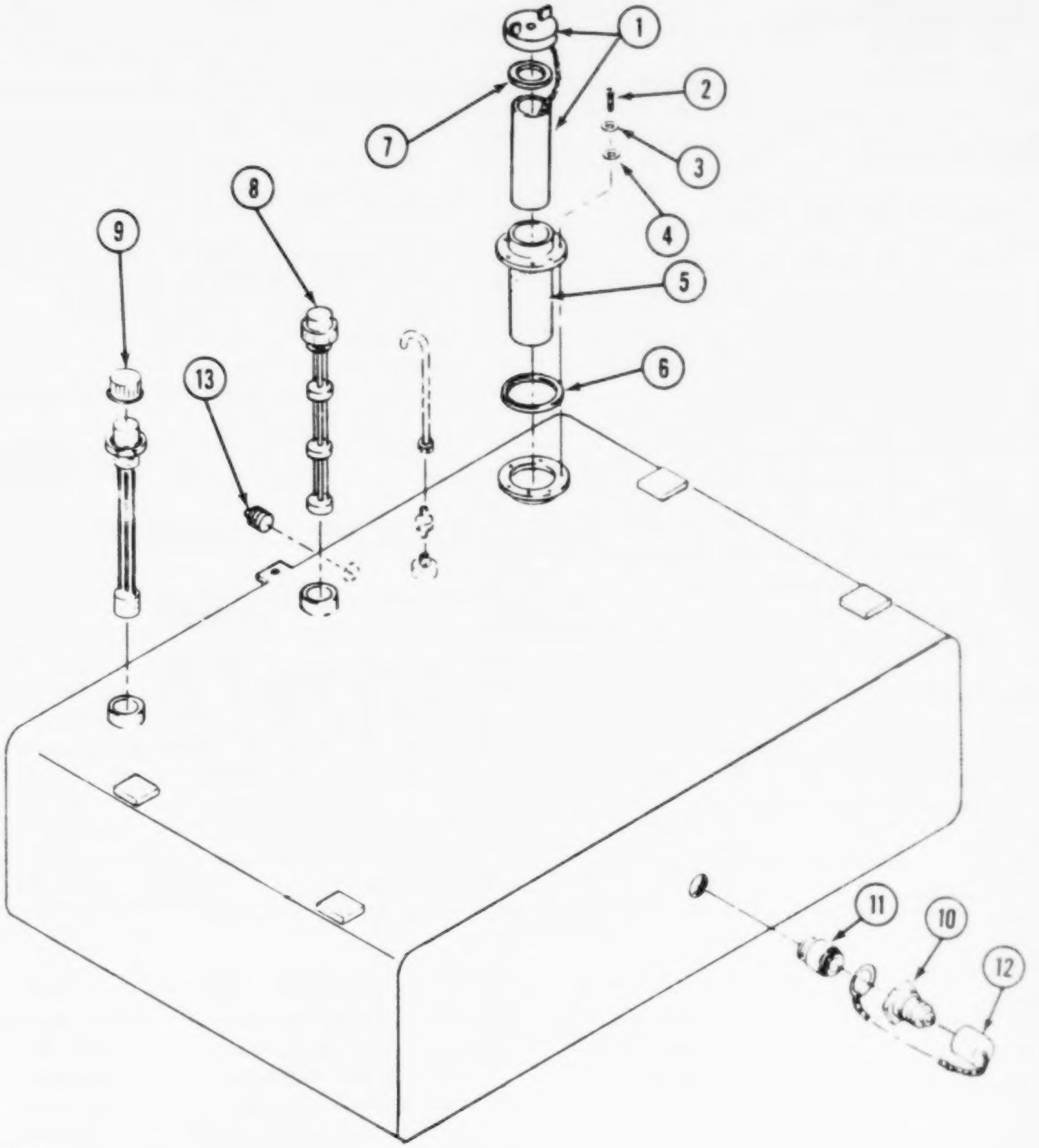
Do not overtighten fuel lines and fittings; overtightening may damage fittings.

6. Primary fuel tank and/or secondary fuel tank	a. Pipe plug (13)	Replace. Insert pipe plug into side of primary fuel tank and/or secondary fuel tank and tighten using 11/16-inch socket with reversible socket wrench ratchet.	
	b. Pipe nipple (11)	Replace. Insert pipe nipple into primary fuel tank and/or secondary fuel tank, and tighten using 3/4-inch combination box- and open-end wrench.	
7. Quick-disconnect insert	Dust cap(s) (12)	Replace. Slide retaining ring and dust cap over end of quick-disconnect insert(s) (10).	
8. Primary fuel tank and/or secondary fuel tank	a. Quick-disconnect insert(s) (10)	Replace. Attach to pipe nipple (11) and tighten using 3/4-inch combination box- and open-end wrench and 15/16-inch combination box- and open-end wrench.	
	b. Fuel-level gage (9)	Replace. Insert into primary fuel tank and/or secondary fuel tank, and tighten using 18-inch pipe wrench.	

5-22. FUEL TANK ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	c. Fuel-level sensor (8)	Replace. Insert into primary fuel tank and/or secondary fuel tank, and tighten using 18-inch pipe wrench.	
	d. Gasket (7)	Replace. Using 1/4-inch flat-tip screwdriver, replace gasket on fuel tank cap (if necessary).	
	e. Fuel tank filler neck (5), gasket (6), five flat washers (4), five lockwashers (3), five machine screws (2), and fuel tank cap and strainer assembly (1)	Replace. Place gasket on fuel tank filler neck. Insert fuel tank filler neck into primary fuel tank or secondary fuel tank and secure using machine screws, lockwashers, and flat washers. Tighten using no. 2 cross-tip screwdriver. Install cap and strainer assembly in fuel tank filler neck and tighten.	

5-22. FUEL TANK ASSEMBLY – MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1 FUEL TANK CAP AND STRAINER ASSEMBLY
2 MACHINE SCREW
3 LOCKWASHER
4 FLAT WASHER
5 FUEL TANK FILLER NECK
6 GASKET
7 GASKET
8 FUEL-LEVEL SENSOR
9 FUEL-LEVEL GAGE
10 QUICK-DISCONNECT INSERT
11 PIPE NIPPLE
12 DUST CAP
13 PIPE PLUG

5-23. EXTERNAL FUEL LINES AND FITTINGS - MAINTENANCE INSTRUCTIONS

This task covers:
a. Remove
b. Replace

INITIAL SETUP

Tools and Special Tools

Contact maintenance shop equipment, truck mounted, 4940-00-294-9518
- Diagonal cutting pliers
- 11/16-inch combination box- and open-end wrench
- No. 2 cross-tip screwdriver
- 5/8-inch combination box- and open-end wrench
- 3/4-inch combination box- and open-end wrench
- 9/16-inch combination box- and open-end wrench
- Hand hammer
- Chisel

Materials/Parts

Sealing compound, item 12, appendix D
Tags, item 14, appendix D

Personnel Required

One turbine engine driven generator repairer, MOS 52F

Equipment Condition Para	Condition Description
2-9d	Generators shut down.
4-9	Generator sets removed.

General Safety Instructions

WARNING

Do not expose any part of the body to high pressure leaks in the fuel system of the generator set. Liquid under pressure may penetrate the skin and cause injury.

LOCATION	ITEM	ACTION	REMARKS
REMOVE			
1. Pallet	a. Tie wrap(s) (1) and six fuel hoses (2)	Remove. Using diagonal cutting pliers, cut tie wrap(s) holding fuel hoses. Using 11/16-inch combination box- and open-end wrench, remove fuel hoses and fuel tubes.	Fuel hoses may be tagged to ease replacement.

5-23. EXTERNAL FUEL LINES AND FITTINGS - MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	b. Five screws (3), five spacers (4), five lockwashers (5), and five clamps (6)	Remove. Starting at either end of pallet, use no. 2 cross-tip screwdriver to remove screws, spacers, lockwashers, and clamps.	
	c. Adapter (7)	Remove. Using 5/8-inch combination box- and open-end wrench, turn adapter to left and remove.	
	d. Fuel hose (8)	Remove. Using 11/16-inch combination box- and open-end wrench, turn fuel line to left and remove.	
	e. Pipe-to-tube tee (9) and (10)	Remove. Using 3/4-inch combination box- and open-end wrench, turn pipe-to-tube tee (9) to left and remove. Repeat for pipe-to-tube tee (10).	
	f. Fuel hose (11)	Remove. Using 11/16-inch combination box- and open-end wrench, turn fuel hose to left and remove.	
	g. Fuel hose (12)	Remove. Using 11/16-inch combination box- and open-end wrench, turn fuel hose to left and remove.	
	h. Cross tube (13)	Remove. Using 5/8-inch combination box- and open-end wrench, turn cross tube to left and remove.	

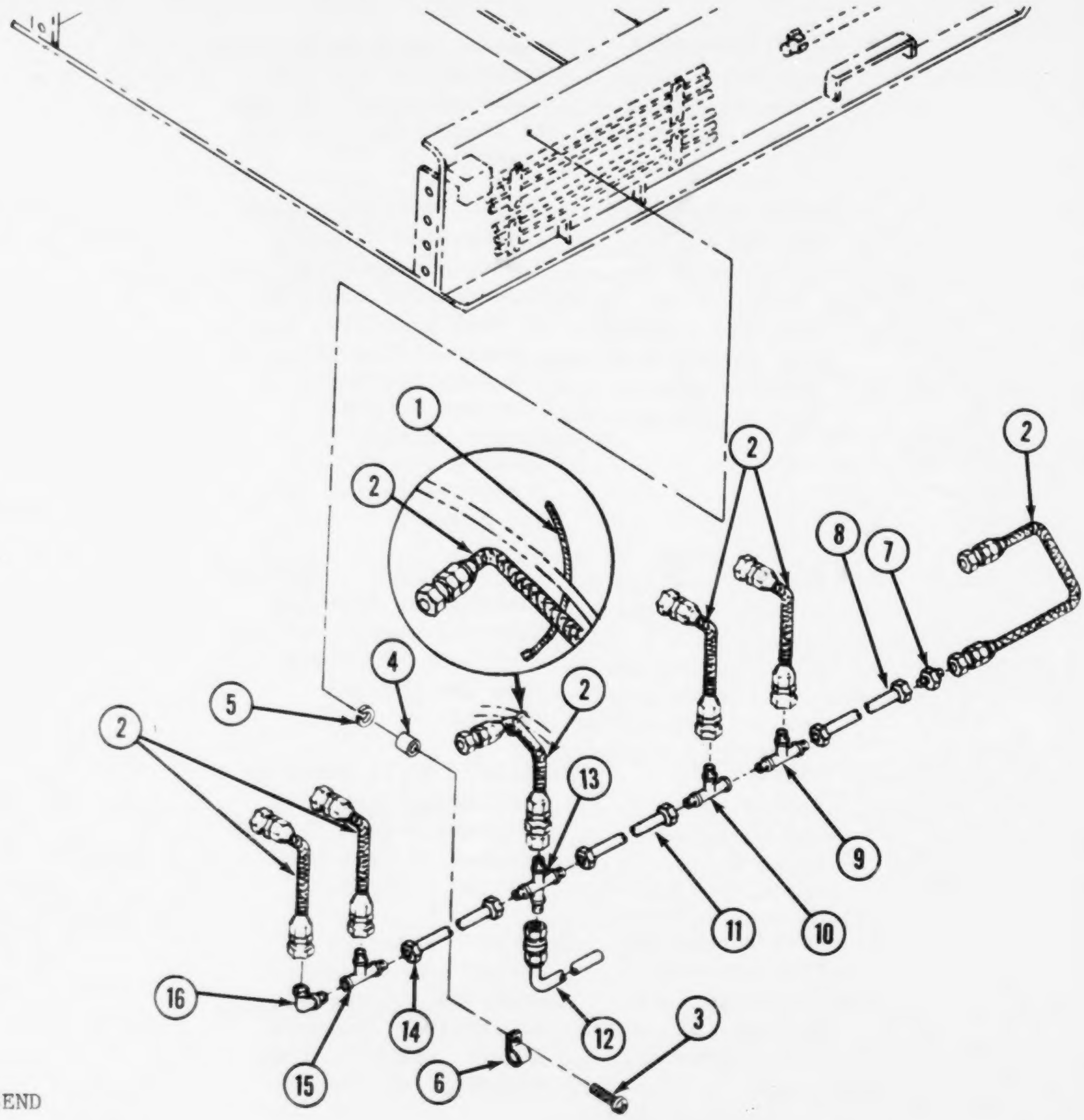
5-23. EXTERNAL FUEL LINES AND FITTINGS – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	i. Fuel hose (14)	Remove. Using 11/16-inch combination box- and open-end wrench, turn fuel hose to left and remove.	
	j. Pipe-to-tube tee (15) and elbow (16)	Remove. Using 9/16-inch combination box- and open-end wrench to hold elbow, and 3/4-inch combination box- and open-end wrench, turn pipe-to-tube tee to left and remove from elbow.	
REPLACE			
2. Pallet	a. Pipe-to-tube tee (15) and elbow (16)	Replace. Using 9/16-inch combination box- and open-end wrench to hold elbow, and 3/4-inch combination box- and open-end wrench, attach pipe-to-tube tee to elbow and tighten.	
	b. Fuel hose (14)	Replace. Using 11/16-inch combination box- and open-end wrench, attach fuel hose to pipe-to-tube tee (15) and tighten.	
	c. Cross tube (13)	Replace. Using 5/8-inch combination box- and open-end wrench, attach cross tube to fuel hose (14) and tighten.	
	d. Fuel hose (12)	Replace. Using 11/16-inch combination box- and open-end wrench, attach to cross tube (13) and tighten.	

5-23. EXTERNAL FUEL LINES AND FITTINGS – MAINTENANCE INSTRUCTIONS (CONT)

LOCATION	ITEM	ACTION	REMARKS
	e. Fuel hose (11)	Replace. Using 11/16-inch combination box- and open-end wrench, attach to cross tube (13) and tighten.	
	f. Pipe-to-tube tee (9) and (10)	Replace. Using 3/4-inch combination box- and open-end wrench, attach pipe-to-tube tee (10) to fuel hose (11) and tighten. Also using 3/4-inch combination box- and open-end wrench, attach pipe-to-tube tee (9) to pipe-to-tube tee (10) and tighten.	
	g. Fuel hose (8)	Replace. Using 11/16-inch combination box- and open-end wrench, attach fuel hose to pipe-to-tube tee (9) and tighten.	
	h. Adapter (7)	Replace. Using 5/8-inch combination box- and open-end wrench, attach adapter to fuel hose (8) and tighten.	
	i. Five screws (3), five spacers (4), five lockwashers (5), and five clamps (6)	Replace. Starting at either end of pallet, using no. 2 cross-tip screwdriver, install screws, spacers, lockwashers, and clamps.	
	j. Six fuel hoses (2) and tie wrap(s) (1)	Replace. Using 11/16-inch combination box- and open-end wrench, attach fuel hoses and tighten. Install tie wrap(s), and pull tie tight.	

5-23. EXTERNAL FUEL LINES AND FITTINGS - MAINTENANCE INSTRUCTIONS (CONT)


1
2
2
2
8
7
2
4
5
2
13
2
9
11
10
16
14
12
3
15
6

LEGEND

1	TIE WRAP
2	FUEL HOSES
3	SCREW
4	SPACER
5	LOCKWASHER
6	CLAMP
7	ADAPTER
8	FUEL HOSE
9	PIPE-TO-TUBE TEE
10	PIPE-TO-TUBE TEE
11	FUEL HOSE
12	FUEL HOSE
13	CROSS TUBE
14	FUEL HOSE
15	PIPE-TO-TUBE TEE
16	ELBOW

5-24. TRAILER – MAINTENANCE INSTRUCTIONS

This task covers:
- a. Repair

INITIAL SETUP

Tools and Special Tools

Contact maintenance shop equipment, truck mounted, 4940-00-294-9518
- Hand hammer
- Rivet buster hand chisel
- Size 4 drive pin punch

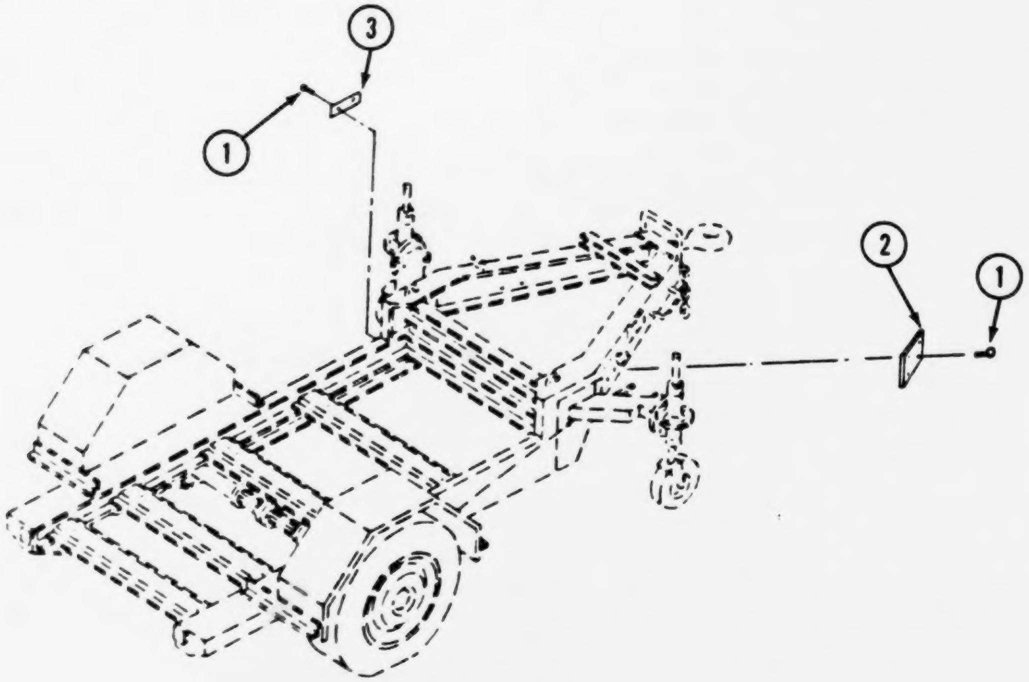
Welding shop, trailer mounted, 3431-00-935-7821

Personnel Required

One turbine engine driven generator repairer, MOS 52F
One welder, MOS 44B

LOCATION	ITEM	ACTION	REMARKS
REPAIR			
1. Front roadside of trailer	a. Four drive screws (1) and trailer handling plate (2)	Remove. Using hand hammer, chisel, and drive pin punch, remove drive screws.	
	b. Four drive screws (1) and identification plate (3)	Remove. Using hand hammer, chisel, and drive pin punch, remove drive screws.	
2. Tailgate assembly, supports, storage tray, and steps		Repair by welding as required.	
3. Front roadside of trailer	a. Four drive screws (1) and trailer handling plate (2)	Replace. Aline handling plate holes with trailer mounting holes. Hammer in drive screws.	
	b. Four drive screws (1) and identification plate (3)	Replace. Aline identification plate with trailer mounting holes. Hammer in drive screws.	

5-24. TRAILER – MAINTENANCE INSTRUCTIONS (CONT)



LEGEND

1	DRIVE SCREWS
2	TRAILER HANDLING PLATE
3	IDENTIFICATION PLATE

SECTION V. PREPARATION FOR STORAGE OR SHIPMENT

5-25. **GENERAL.** Administrative storage of the EPU will be done in accordance with TM 740-90-1 (Administrative Storage of Equipment), PATRIOT standing operating procedures, and unit standing operating procedures. For shipping the EPU, use TB 740-97-2 (Preservation of USAMECOM Mechanical Equipment for Shipment and Storage) and the above-mentioned standing operating procedures.

5-26. **SHIPMENT OF GENERATOR SET.** Prior to shipment of generator set to depot maintenance, the jumper wire from terminal 21 to terminal 23 of the LOCAL/REMOTE switch (S1) must be removed. (Refer to paragraph 5-6 for jumper connection diagram.) Once the jumper wire has been removed, remove S1 jumper wire decal from inside of generator control panel.

5-27. **PREEMBARKATION INSPECTION.** General support personnel will refer to AR 220-1 and PATRIOT standing operating procedures for specific requirements.

APPENDIX A
REFERENCES

A–1. SCOPE. This appendix lists all forms, field manuals, technical manuals, DA Pamphlets, and miscellaneous publications referenced in this manual.

A–2. FORMS

SF 368	Quality Deficiency Report
DA Form 2028	Recommended Changes to Publications and Blank Forms
DA Form 2028-2	Recommended Changes to Equipment Technical Publications

A–3. FIELD MANUALS

FM 20-31	Electric Power Generation in the Field
FM 21-11	First Aid for Soldiers

A–4. TECHNICAL MANUALS

TM 5-6115-603-12	Operator and Organizational Maintenance Manual, Generator Set, Gas Turbine Engine Driven, Transportable Skid Mtd., 60 kW, 3 Phase, 4 Wire, AC, 120/208 and 240/416 Volts (MEP404B)
TM 5-6115-603-24P	Organizational, Intermediate (Field) (Direct and General Support) and Depot Maintenance Repair Parts and Special Tools List, Generator Set, Gas Turbine Engine Driven, Transportable Skid Mtd., 60 kW, 3 Phase, 4 Wire, AC, 120/208 and 240/416 Volts (MEP404B)
TM 5-6115-603-34	Intermediate (Field), (Direct and General Support) and Depot Maintenance Manual, Generator Set, Gas Turbine Engine Driven, Transportable Skid Mtd., 60 kW, 3 Phase, 4 Wire, AC, 120/208 and 240/416 Volts (MEP404B)
TM 9-2330-247-14	Operator, Organizational, Direct and General Support Maintenance Manual (Including Repair Parts and Special Tools List) for Chassis, Trailer: General Purpose, 3½-Ton, 2-Wheel, M353 (2330-00-542-2831)
TM 43-0002-24	Destruction of Army Materiel to Prevent Enemy Use
TM 740-90-1	Administrative Storage of Equipment

A-4. TECHNICAL MANUALS (CONT)

TM 9-2320-260-10	Operator's Manual for Truck, Chassis: 5 ton, 6x6, M809, M809A1, M810, M811, M811A1, M811A2, M812, and M812A1. Truck, Cargo: Dropside, 5 ton, 6x6, M813. Truck, Cargo: Dropside, 5 ton, 6x6, M813A1. Truck, Cargo: 5 ton, 6x6, M814. Truck, Bolster: 5 ton, 6x6, M815. Truck, Wrecker: Medium, 5 ton, 6x6, M816. Truck, Dump: 5 ton, 6x6, M817. Truck, Tractor: 5 ton, 6x6, M818. Truck, Tractor, Wrecker: 5 ton, 6x6, M819. Truck, Van: Expansible, 5 ton, 6x6, M820, M820A1, M820A2. Truck, Stake, Bridge Transporting, 5 ton, 6x6, M821.

A-5. TECHNICAL BULLETINS

TB 740-97-2	Preservation of USAMECOM Mechanical Equipment for Shipment and Storage

A-6. DA PAMPHLETS

DA Pam 738-750	The Army Maintenance Management System (TAMMS)

A-7. MISCELLANEOUS PUBLICATIONS

AR 220-1	Unit Status Reporting (RCS JCS 6-11-2-1-6)
CTA 50-970	Expendable/Durable Items (Except: Medical, Class V, Repair Parts and Heraldic Items)
SB 708-42	Federal Supply Code for Manufacturers; United States and Canada

APPENDIX B
MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

B-1. GENERAL

a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance categories.

b. The Maintenance Allocation Chart (MAC) in section II designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance categories.

c. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. MAINTENANCE FUNCTIONS. Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).

b. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.

d. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. Aline. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of

B-2. MAINTENANCE FUNCTIONS (CONT)

which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and is shown as the 3d position of the SMR code.

i. Repair. The application of maintenance services[1], including fault location/troubleshooting[2], removal/installation, and disassembly/assembly[3] procedures, and maintenance actions[4] to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. Overhaul. That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hour/miles, etc.) considered in classifying Army equipment/components.

---

[1] Services - inspect, test, service, adjust, aline, calibrate, and/or replace.

[2] Fault locate/troubleshoot - The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or unit under test (UUT).

[3] Disassemble/assemble - encompasses the step-by-step taking apart (or breakdown) of a spare/functional group coded item to the level of its least componency identified as maintenance significant (i.e., assigned an SMR code) for the category of maintenance under consideration.

[4] Actions - welding, grinding, riveting, straightening, facing, remachinery, and/or resurfacing.

B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II

a. Column 1, Group Number. Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly. End item group number shall be "00."

b. Column 2, Component/Assembly. Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Function. Column 3 lists the functions to be performed on the item listed in Column 2. (For detailed explanation of these functions, see paragraph B-2.)

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a work time figure in the appropriate subcolumn(s), the category of maintenance authorized to perform the function listed in Column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate work time figures will be shown for each category. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance categories are as follows:

C . . . . Operator or crew
O . . . . Organizational maintenance
F . . . . Direct Support maintenance
H . . . . General Support maintenance
L . . . . Specialized Repair Activity (SRA)[5]
D . . . . Depot maintenance

---

[5] This maintenance category is not included in Section II, column (4) of the Maintenance Allocation Chart. To identify functions to this category of maintenance, enter a work time figure in the "H" column of Section II, column (4), and use an associated reference code in the Remarks column (6). Key the code to Section IV, Remarks, and explain the SRA complete repair application there. The explanatory remark(s) shall reference the specific Repair Parts and Special Tools List (RPSTL) TM which contains additional SRA criteria and the authorized spare/repair parts.

B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II (CONT)

e. Column 5, Tools and Equipment. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.

f. Column 6, Remarks. This column shall, when applicable, contain a letter code, in alphabetic order, which shall be keyed to the remarks contained in Section IV.

B-4. EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT REQUIREMENTS, SECTION III

a. Column 1, Reference Code. The tool and test equipment reference code correlates with a code used in the MAC, Section II, Column 5.

b. Column 2, Maintenance Category. The lowest category of maintenance authorized to use the tool or test equipment.

c. Column 3, Nomenclature. Name or identification of the tool or test equipment.

d. Column 4, National Stock Number. The National stock number of the tool or test equipment.

e. Column 5, Tool Number. The manufacturer's part number.

B-5. EXPLANATION OF COLUMNS IN REMARKS, SECTION IV

a. Column 1, Reference Code. The code recorded in column 6, Section II.

b. Column 2, Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

Section II. MAINTENANCE ALLOCATION CHART FOR ELECTRIC POWER UNIT

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
01	MEP404B GENERATOR SET	Replace		1.0				1,4,5,10	A
02	ELECTRICAL SYSTEM								
0201	FUEL DISTRIBUTION UNIT	Inspect			0.3			2	
		Test			1.0			2,7,24	
		Repair			1.0			2	B
		Replace			0.5			2	
0202	K4 RELAY	Test			1.0			2,7,24	
		Replace			0.5			2	
0203	W6 CABLE	Test		0.5				1,7	
		Replace		0.5				1	
0204	W2 CABLE	Test		0.5				1,7	
		Replace		0.1				1	
		Repair			0.5			2,6,23	
0205	W4 CABLE	Test		0.5				1,7	
		Replace		0.1				1	
		Repair			0.5			2,6,23	
0206	W3 CABLE	Test		0.5				1,7	
		Replace		0.1				1	
		Repair			0.5			2,6,23	
0207	AUTO START AND COMPENSATION CABLE ASSEMBLY	Test		0.5				1,7	
		Replace		0.1				1	
0208	XK4 WIRING HARNESS	Inspect			0.3			2	
		Test			0.7			2,7	
		Repair			1.0			2,6,23	
		Replace			2.0			2,7	
0209	J7 WIRING HARNESS	Inspect			0.3			2	
		Test			0.7			2,7	
		Repair			1.0			2,6	C
		Replace			2.0			2,7	
0210	J8 WIRING HARNESS	Inspect			0.3			2	
		Test			0.7			2,7	
		Repair			1.0			2,6	C
		Replace			2.0			2,7	
0211	J9 WIRING HARNESS	Inspect			0.3			2	
		Test			0.7			2,7	
		Repair			1.0			2,6	C
		Replace			2.0			2,7	

MAINTENANCE ALLOCATION CHART
FOR
ELECTRIC POWER UNIT
(CONT)

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE CATEGORY					TOOLS AND EQUIPMENT	REMARKS
			C	O	F	H	D		
0212	J10 WIRING HARNESS	Inspect			0.3			2	
		Test			0.7			2,7	
		Repair			1.0			2,6	C
		Replace			2.0			2,7	
03	POWER DISTRIBUTION UNIT, EPU	Inspect			0.2			2	
		Test			1.0			2,7,24	
		Replace			1.5			2,11	
		Repair			1.0			2,6,23	B
0301	K1 CONTACTOR	Test			0.2			2,7,11	
		Replace			0.5			2,7,11	
0302	K2 CONTACTOR	Test			0.2			2,7,11	
		Replace			0.5			2,7,11	
0303	W9 POWER CABLE	Test			0.2			2,7	
		Replace			0.1			2,21	
		Repair					*		
0304	W10 POWER CABLE	Test			0.2			2,7	
		Replace			0.1			2,21	
		Repair					*		
0305	W7 SIGNAL CABLE	Test			0.5			2,7	
		Replace			0.1			2,22	
0306	W8 SIGNAL CABLE	Test			0.5			2	
		Replace			0.1			2,7,22	
0307	W1 POWER CABLE	Test		0.5				7	
		Replace		0.1					
		Repair					*		
0308	K3 RELAY	Test			0.1			2,7	
		Replace			0.2			2	
0309	W5 CABLE	Test		0.1				7	
		Replace		0.2					
		Repair					*		
0310	J1 WIRING HARNESS	Inspect			0.3			2	
		Test			0.7			2,7	
		Repair			1.0			2,6	
		Replace			2.0			2	
0311	J6 WIRING HARNESS	Inspect			0.3			2	
		Test			0.7			2,7	
		Repair			1.0			2,6	
		Replace			2.0			2	

MAINTENANCE ALLOCATION CHART
FOR
ELECTRIC POWER UNIT
(CONT)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
0312	J11 WIRING HARNESS	Inspect			0.3			2	
		Test			0.7			2,7	
		Repair			1.0			2,6	C
		Replace			2.0			2	
0313	PDU WIRING HARNESS	Inspect			0.3			2	
		Test			0.7			2,7	
		Repair			1.0			2,6	
		Replace			2.0			2,6,11	
04	PALLET ASSEMBLY	Replace		2.5				1,4,5,8,9,10,20	
		Repair			1.0			25	D
0401	PALLET FRAME	Replace			5.5			2,4,5,8,9,10	
		Repair			1.0			2,8,9,10	D
05	FUEL SYSTEM								
0501	FUEL TANK VENT	Inspect		0.1					
		Replace		0.2				1	
0502	FUEL-LEVEL SENSOR	Inspect		0.1					E
		Test		0.1				7	
		Replace		0.2				3	E
0503	FUEL TANK ASSEMBLY	Replace			5.0			2,4,5	
		Repair		0.5				1	I
0504	FUEL FILTER/WATER SEPARATOR	Service	0.1						
		Service		0.5				1	
		Replace		0.8				1	G
0505	FUEL SHUTOFF VALVES	Inspect		0.1					
		Replace		0.2				1	
0506	SOLENOID VALVE ASSEMBLY	Inspect		0.1					
		Test		0.5					
		Replace		0.6				1	
0507	FUEL CHECK VALVE ASSEMBLY	Inspect		0.1					
		Test		0.2					
		Replace		0.2				1	
0508	INTERNAL FUEL LINES AND FITTINGS	Inspect		0.3					
		Replace		.75				1	
		Repair		0.5				1	H
0509	EXTERNAL FUEL LINES AND FITTINGS	Inspect			0.3				
		Replace			0.8			2	
		Repair			0.5			2	

MAINTENANCE ALLOCATION CHART
FOR
ELECTRIC POWER UNIT
(CONT)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY C	O	F	H	D	(5) TOOLS AND EQUIPMENT	(6) REMARKS
06	M353 (MODIFIED) 3½-TON TRAILER								F
0601	TAILGATE ASSEMBLY	Inspect		0.1					
		Replace		0.8				1	
		Repair			1.0			2	D
0602	WALKWAY GRATING	Replace		0.7				1	
0603	SUPPORTS	Replace		2.6				1,4	
		Repair			0.5			2	D
0604	STORAGE TRAY	Replace		2.8				1,4	
		Repair			0.5			2	
0605	STEPS	Replace		0.3				1	
		Repair			0.5			2	D

Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS FOR ELECTRIC POWER UNIT

REF CODE	MAINT. CAT.	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
1	O	TOOL KIT, GENERAL MECHANIC'S AUTOMOTIVE	5180-00-177-7033	
2	F	SHOP EQUIPMENT, CONTACT MAINTENANCE, TRUCK-MOUNTED	4940-00-294-9518	
3	O	PIPE WRENCH, 18-INCH	5120-00-277-1479	
4	O	WRECKER TRUCK, 5-TON, M816	2320-00-051-0489	
5	O	FOUR SLING ASSEMBLIES, WIRE ROPE, SINGLE LEG	4010-01-083-2453	
6	F	SOLDERING AND DESOLDERING SET, ELECTRIC, TEMPERATURE CONTROLLED	3459-00-460-7198	
7	O	MULTIMETER	6625-00-999-6282	
8	O	1-1/8-INCH COMBINATION BOX- AND OPEN-END WRENCH	5120-00-228-9516	
9	O	1-1/8-INCH SOCKET 1/2-INCH SQUARE FEMALE DRIVE	5120-00-189-7914	
10	O	QUICK-DISCONNECT FUEL DRAIN HOSE	To Be Furnished by Government	
11	F	1/4-INCH DEEP STYLE SOCKET, 1/4-INCH SQUARE FEMALE DRIVE	5120-00-775-6981	
12	C	7/8-INCH OPEN-END WRENCH	5120-00-148-7918	
13	C	1/2-INCH COMBINATION BOX- AND OPEN-END WRENCH	5120-00-228-9506	
14	C	11/16-INCH COMBINATION BOX- AND OPEN-END WRENCH	5120-00-228-9509	
15	C	5/8-INCH COMBINATION BOX- AND OPEN-END WRENCH	5120-00-228-9508	

TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR
ELECTRIC POWER UNIT
(CONT)

REF CODE	MAINT. CAT.	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
16	C	15/16-INCH OPEN-END WRENCH	5120-00-148-7918	
17	C	SLIP-JOINT PLIERS	5120-00-223-7397	
18	C	3/8-INCH COMBINATION BOX- AND OPEN-END WRENCH	5120-00-228-9504	
19	C	5/16-INCH FLAT-TIP SCREWDRIVER, 1 3/4-INCH BLADE	5120-00-222-8852	
20	O	SHACKLE	4030-01-035-8942	
21	F	SPANNER WRENCH	5120-00-293-1455	
22	F	CONDUIT SLIP-JOINT PLIERS	5120-00-624-8065	
23	F	HAND WIRE STRIPPER	5110-00-268-4224	
24	F	POWER SUPPLY	6130-00-249-2748	
25	F	TRAILER MOUNTED WELDING SHOP	3431-00-935-7821	

Section IV. REMARKS

Reference Code	Remarks
A	All inspections, tests, services, fault locating, repairs, and replacement of parts will be done in accordance with TM 5-6115-603-12 and TM 5-6115-603-34.
B	Repairs shall consist of replacement of internal components as required.
C	Repair is limited to splicing one lead. If more than one wire is damaged, replace the wiring harness.
D	Repair by welding.
E	Test and replacement procedures will be the same for both the primary and secondary tank fuel-level sensors.
F	All inspections, tests, services, fault locating, repair, and replacement of parts will be done in accordance with TM 9-2330-247-14.
G	Repair is limited to replacing the filter element every 600 hours.
H	Repair is limited to the removal and replacement of hose connectors.
I	Repair consists of replacement of components.

APPENDIX C

ORGANIZATIONAL AND DIRECT SUPPORT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

C-1. SCOPE. This appendix lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of organizational and direct support maintenance of the Electric Power Unit (EPU), AN/MJQ-21. It authorizes the requisition, issue, and disposition of spares, repair parts, and special tools, as indicated by the Source, Maintenance, and Recoverability (SMR) codes.

C-2. GENERAL. This Repair Parts and Special Tools List (RPSTL) is divided into the following sections:

a. Section II. Repair Parts List. A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. The parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in National Stock Number (NSN) sequence.

b. Section III. Special Tools List. A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL for the performance of maintenance.

c. Section IV. National Stock Number and Part Number Index. A list, in National Item Identification Number (NIIN) sequence, of all NSN's appearing in the listings, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. NSN's and part numbers are cross-referenced to each illustration figure and item number appearance.

C-3. EXPLANATION OF COLUMNS

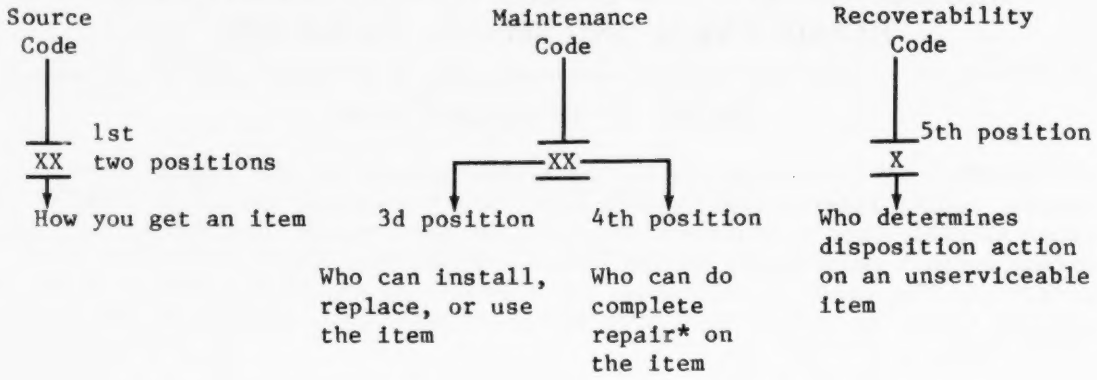
a. Illustration (Column (1)). This column is divided as follows:

(1) ((a) FIG. NO.) Figure Number. Indicates the figure number illustrating an exploded view of a functional group.

(2) ((b) ITEM NO.). Indicates the number used to identify items called out in the illustration.

b. SMR CODE (Column (2)). The SMR code is a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instructions, as shown in the following breakout:

C-3. EXPLANATION OF COLUMNS (CONT)


Source Code
1st two positions
XX
How you get an item
Maintenance Code
XX
3d position
Who can install, replace, or use the item
4th position
Who can do complete repair* on the item
Recoverability Code
5th position
X
Who determines disposition action on an unserviceable item

*Complete Repair: Maintenance capacity, capability, and authority to perform all the corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

(1) Source Code. The source code tells you how you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Source codes are always the first two positions of the SMR code. Explanations of source codes follow:

Code	Explanation
PA PB PC PD PE PF PG	Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the third position of the SMR code.
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the third position of the SMR code. The complete kit must be requisitioned and applied.
MO - (Made at Organizational Category) MF - (Made at Direct Support (DS) Category)	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk material which is identified by NSN in the Description column and listed in the Bulk Material Group in the repair parts list in this manual. If the item is authorized to you by the third position

C-3. EXPLANATION OF COLUMNS (CONT)

Code	Explanation
MH - (Made at General Support (GS) Category)	code of the SMR code, but the source code indicates it is made at a higher category, order the item from the higher category of maintenance.
MD - (Made at Depot)	
AO - (Assembled by Organizational Category)	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the category of maintenance indicated by the source code. If the third position code of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher category, order the item from the higher category of maintenance.
AF - (Assembled by DS Category)	
AH - (Assembled by GS Category)	
AD - (Assembled by Depot)	

XA - Do not requisition an "XA"-coded item. Order its next higher assembly. (Also, refer to the NOTE below.)

XB - If an "XB" item is not available from salvage, order it using the Federal Supply Code for Manufacturers (FSCM) and part number given.

XC - Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.

XD - Item is not stocked. Order an "XD"-coded item through normal supply channels using the FSCM and part number given, if no NSN is available.

NOTE

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of AR 700-42.

(2) Maintenance Code. Maintenance codes tell you the category(s) of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

C-3. EXPLANATION OF COLUMNS (CONT)

(a) The maintenance code entered in the third position tells you the lowest maintenance category authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to one of the following categories of maintenance.

Code	Application/Explanation
C	Crew or operator maintenance done within organizational maintenance.
O	Organizational category can remove, replace, and use the item.
F	Direct support category can remove, replace, and use the item.
H	General support category can remove, replace, and use the item.
L	Specialized repair activity can remove, replace, and use the item.
D	Depot category can remove, replace, and use the item.

(b) The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance category with the capability to do complete repair (i.e., perform all authorized repair functions). (NOTE: Some limited repair may be done on the item at a lower category of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.) This position will contain one of the following maintenance codes:

Code	Application/Explanation
O	Organizational is the lowest category that can do complete repair of the item.
F	Direct support is the lowest category that can do complete repair of the item.
H	General support is the lowest category that can do complete repair of the item.
L	Specialized repair activity is the lowest category that can do complete repair of the item.
D	Depot is the lowest category that can do complete repair of the item.

C-3. EXPLANATION OF COLUMNS (CONT)

Code		Application/Explanation
Z	-	Nonreparable. No repair is authorized.
B	-	No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B"-coded item.) However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

(3) Recoverability Code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the SMR code as follows:

Recoverability Codes		Definition
Z	-	Nonreparable item. When unserviceable, condemn and dispose of the item at the category of maintenance shown in the third position of the SMR code.
O	-	Reparable item. When uneconomically reparable, condemn and dispose of the item at the organizational category.
F	-	Reparable item. When uneconomically reparable, condemn and dispose of the item at the direct support category.
H	-	Reparable item. When uneconomically reparable, condemn and dispose of the item at the general support category.
D	-	Reparable item. When beyond lower category repair capability, return to depot. Condemnation and disposal not authorized below depot category.
L	-	Reparable item. Condemnation and disposal not authorized below specialized repair activity.
A	-	Item requires special handling or condemnation procedures because of specific reasons (i.e., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. National Stock Number (Column (3)). This column lists the NSN assigned to the item. Use the NSN for requests/requisitions.

C-3. EXPLANATION OF COLUMNS (CONT)

d. FSCM (Column (4)). The FSCM is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

e. Part Number (Column (5)). This column indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

NOTE

> When you use an NSN to requisition an item, the item you receive may have a different part number from the part ordered, but go ahead and use or furnish it as the replacement part.

f. Description (Column (6)). This column includes the following information:

(1) The Federal item name and, when required, a minimum description to identify the item.

(2) The physical security classification of the item is indicated by the parenthetical entry (insert applicable physical security classification abbreviation, e.g., Phy Sec Cl (C) - Confidential, Phy Sec Cl Secret, Phy Sec Cl (T) - Top Secret).

(3) Items that are included in kits and sets are listed below the name of the kit or set.

(4) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.

(5) NSN's for bulk materials are referenced in the description column in the line item entry for the item to be manufactured/fabricated.

(6) When the part to be used differs between serial numbers of the same model, the effective serial numbers are shown as the last line of the description.

(7) The USABLE ON CODE, when applicable (see paragraph C-4, Special Information).

(8) In the Special Tools List section, the basis of issue (BOI) appears as the last line(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipments supported exceeds density spread indicated in the basis of issue, the total authorization is increased proportionately.

C-3. EXPLANATION OF COLUMNS (CONT)

g. U/M (Column (7)). The Unit of Measure (U/M) indicates the measure (e.g., foot, gallon, pound) or count (e.g., each, dozen, gross) of a listed item. A two-character alpha code (e.g., FT, GL, LB, EA, DZ, GR) appears in this column to indicate the measure or count. If the U/M code appearing in this column differs from the Unit of Issue (U/I) code listed in the Army Master Data File (AMDF), request the lowest U/I that will satisfy your needs.

h. QTY INC IN UNIT (Column (8)). The Quantity Incorporated in Unit (QTY INC IN UNIT) indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group or an assembly. A "V" appearing in this column in lieu of a quantity indicates that no specific quantity is applicable (e.g., shims, spacers).

C-4. SPECIAL INFORMATION.

a. The "USABLE ON CODE" title appears in the lower right corner of column (6), Description. Usable on codes are shown in the right-hand margin of the description column. Uncoded items are applicable to all models. Identification of the usable on code used in this publication is:

Code	Used On
DHE	Model AN/MJQ-21

b. Bulk materials required to manufacture items are listed in the Bulk Material Group of this manual. NSN's for bulk materials are also referenced in the description column of the line item entry for the item to be manufactured/fabricated.

C-5. HOW TO LOCATE REPAIR PARTS.

a. When NSN or Part Number Is Not Known:

(1) First. Using the manual table of contents, determine the functional group or assembly to which the item belongs. This is necessary since figures are prepared for functional groups and assemblies, and listings are divided into the same groups.

(2) Second. Find the figure covering the functional group or assembly to which the item belongs.

(3) Third. Identify the item on the figure and note the number of the item.

(4) Fourth. Refer to the Repair Parts List for the figure to find the line item entry for the item number noted on the figure.

C-5. HOW TO LOCATE REPAIR PARTS (CONT)

b. When NSN or Part Number Is Known:

(1) First. Using the National Stock Number and Part Number Index, find the pertinent NSN or part number. The NSN index is in NIIN* sequence. The part numbers in the Part Number index are listed in ascending alphanumeric sequence. Both indexes cross-reference you to the illustration figure and item number of the item you are looking for.

*The NIIN consists of the last nine digits of the NSN (i.e., $\overset{\text{NSN}}{\overline{5305\text{-}\underset{\text{NIIN}}{\underline{01\text{-}674\text{-}1467}}}}$).

(2) Second. After finding the figure and item number, verify that the item is the one you are looking for, then locate the item number in the repair parts list for the figure.

C-6. ABBREVIATIONS.

Abbreviations	Explanation
ALY	Alloy
BRS	Brass
BSC	Basic
CD PLD	Cadmium Plated
COP	Copper
CRES	Corrosion Resistant Steel
CS	Carbon Steel
CSK	Countersink
DIA	Diameter
EMI	Electromagnetic Interference
HEX	Hexagon
HZ	Hertz
ID	Inside Diameter
KW	Kilowatt
L	Length
LH	Left Hand
MAX THKNS	Maximum Thickness
NOM	Nominal
NPT	National Taper Pipe (thread)
NPTF	Tight Joints
OD	Outside Diameter
PDU	Power Distribution Unit
PH BRZ	Phosphor Bronze
PSVT	Passivate
RH	Right Hand
SKT HD	Socket Head
THD	Thread
THK	Thick
UNC	Unified Coarse Thread
UNCTD	Uncoated
UNF	Unified Fine Thread
WD	Width

Section II. REPAIR PARTS LIST

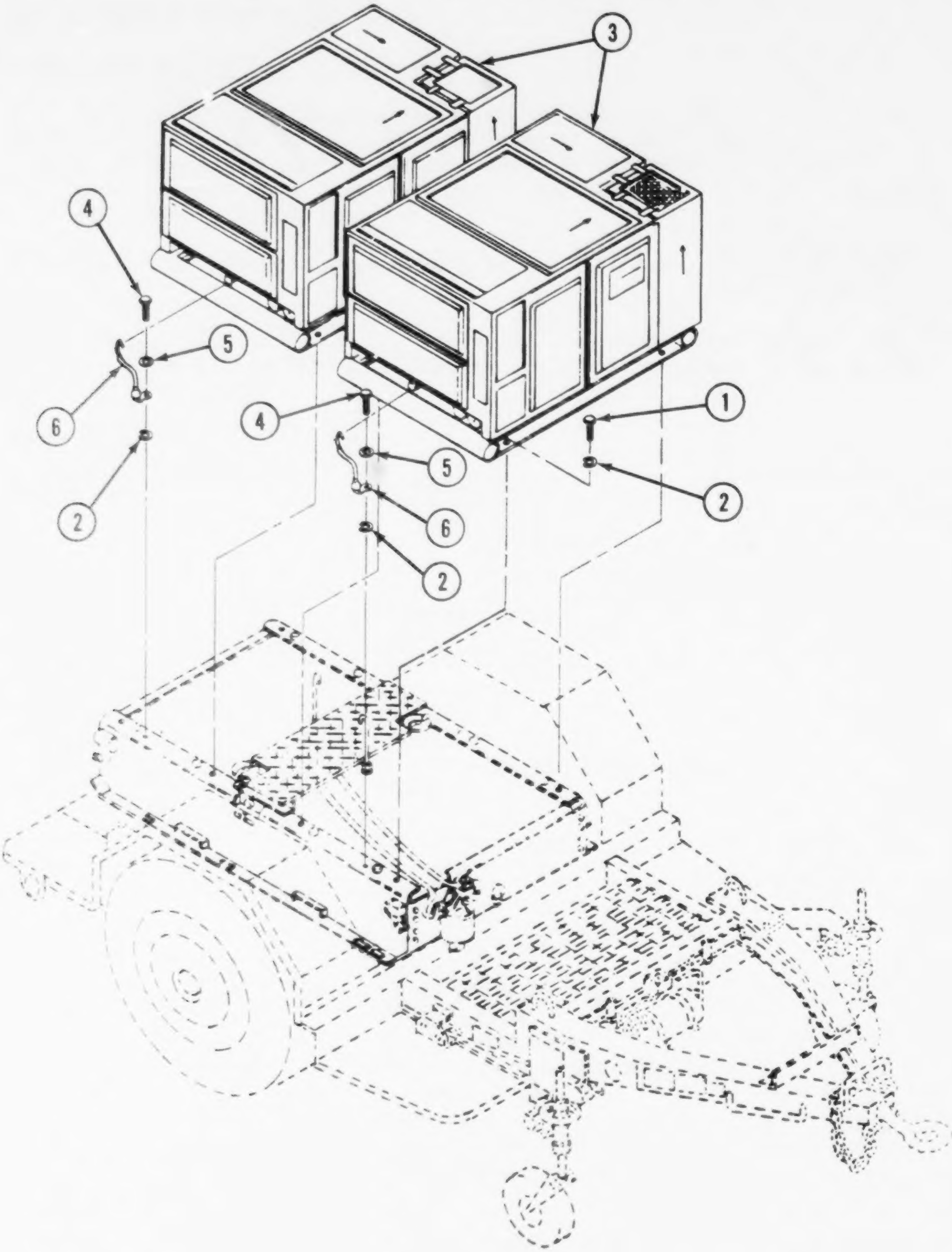

3
4
5
6
2
4
1
5
2
6
2

Figure C-1. MEP404B Generator Sets

(1) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 01 - MEP404B GENERATOR SETS		
C-1	1	PAOZZ	5305-00-782-9495	96906	MS90725-111	Screw, Cap, Hex Head, Steel, Grade 5, CD PLD, UNC-2A, 1/2-13 x 1.250 L	EA	8
C-1	2	PAOZZ	5310-00-584-5272	96906	MS35338-48	Washer, Lock-Spring, Helical, Regular (Medium) Series, .500 NOM Size, CS, CD PLD	EA	10
C-1	3	PDOFH	6115-01-078-3044	55820	MEP404B	Generator Set, Turbine Engine Driven, 60 kW, 400 Hz, MEP404B	EA	2
C-1	4	PAOZZ	5305-00-044-4153	96906	MS90725-109	Screw, Cap, Hex Head, Steel, Grade 5, CD PLD, UNC-2A, 1/2-13 x 1.000 L	EA	2
C-1	5	PAOZZ	5310-00-809-5998	96906	MS27183-18	Washer, Flat, Round, Steel, CD PLD, General Purpose, .531 ID x 1.062 OD x .095 THK BSC	EA	2
C-1	6	MFOFF		97403	13226E8083	Wire Assembly, Ground	EA	2
						Make From:		
C-1		PAFZZ		81349	M13486/1-14	.Wire, Electrical	FT	V
C-1		PAFZZ	5970-00-914-3118	81349	M23053/5-109-0	.Insulation Sleeving	FT	V
C-1		PAFZZ		97403	13222E9699-3	.Terminal, Lug	EA	1

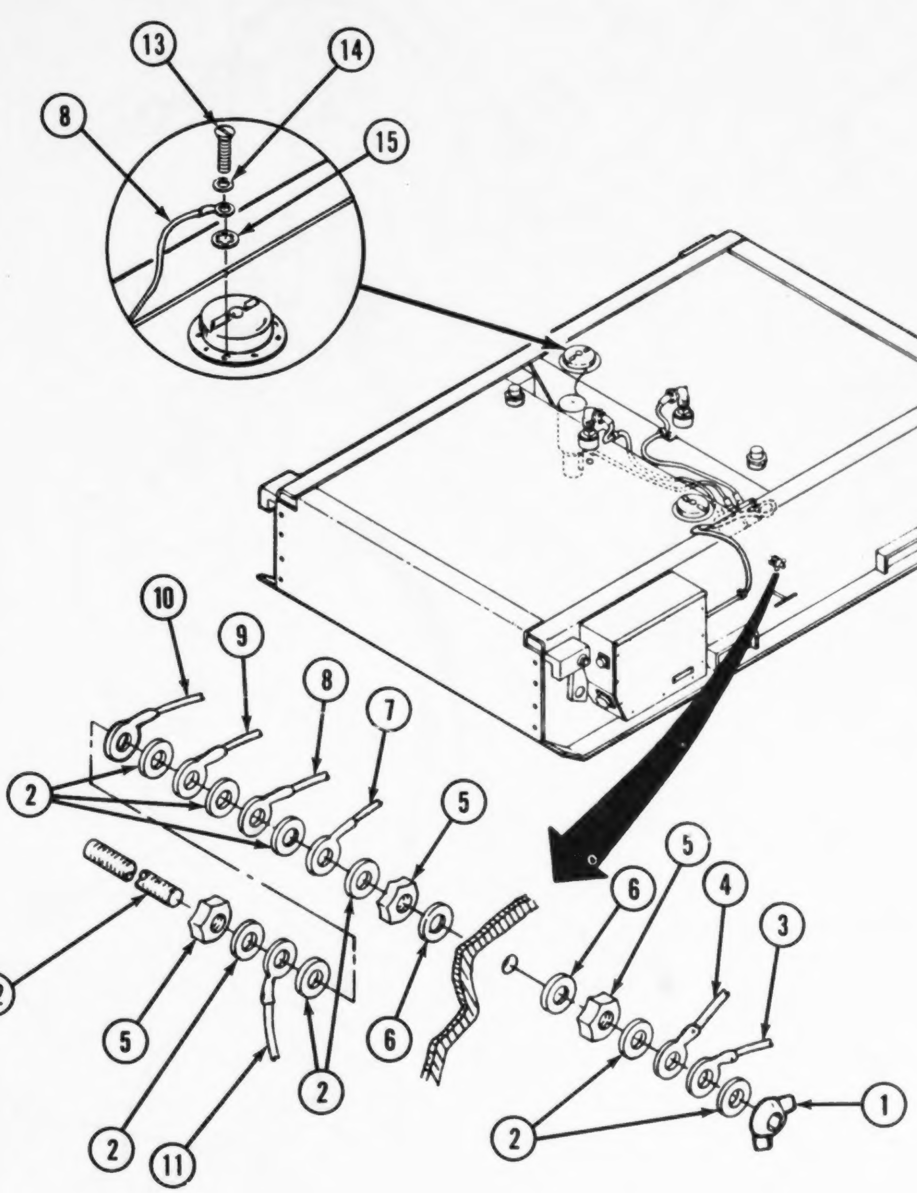

13
14
8
15
10
9
8
7
5
2
12
5
2
11
2
6
2
6
5
4
3
1
2

Figure C-2. Electrical System (Sheet 1 of 4)

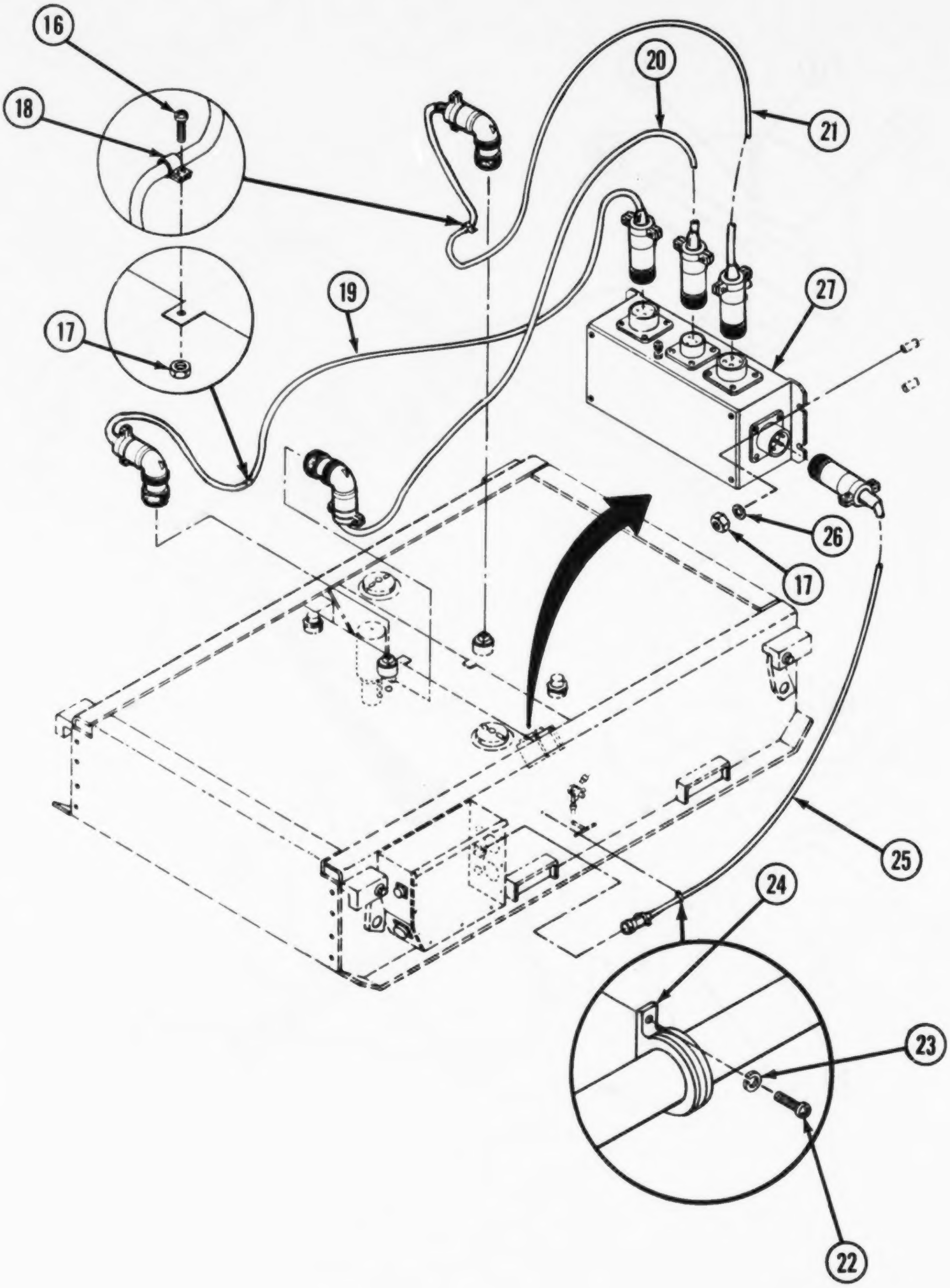

16
18
20
21
19
27
17
26
17
25
24
23
22

Figure C-2. Electrical System (Sheet 2 of 4)

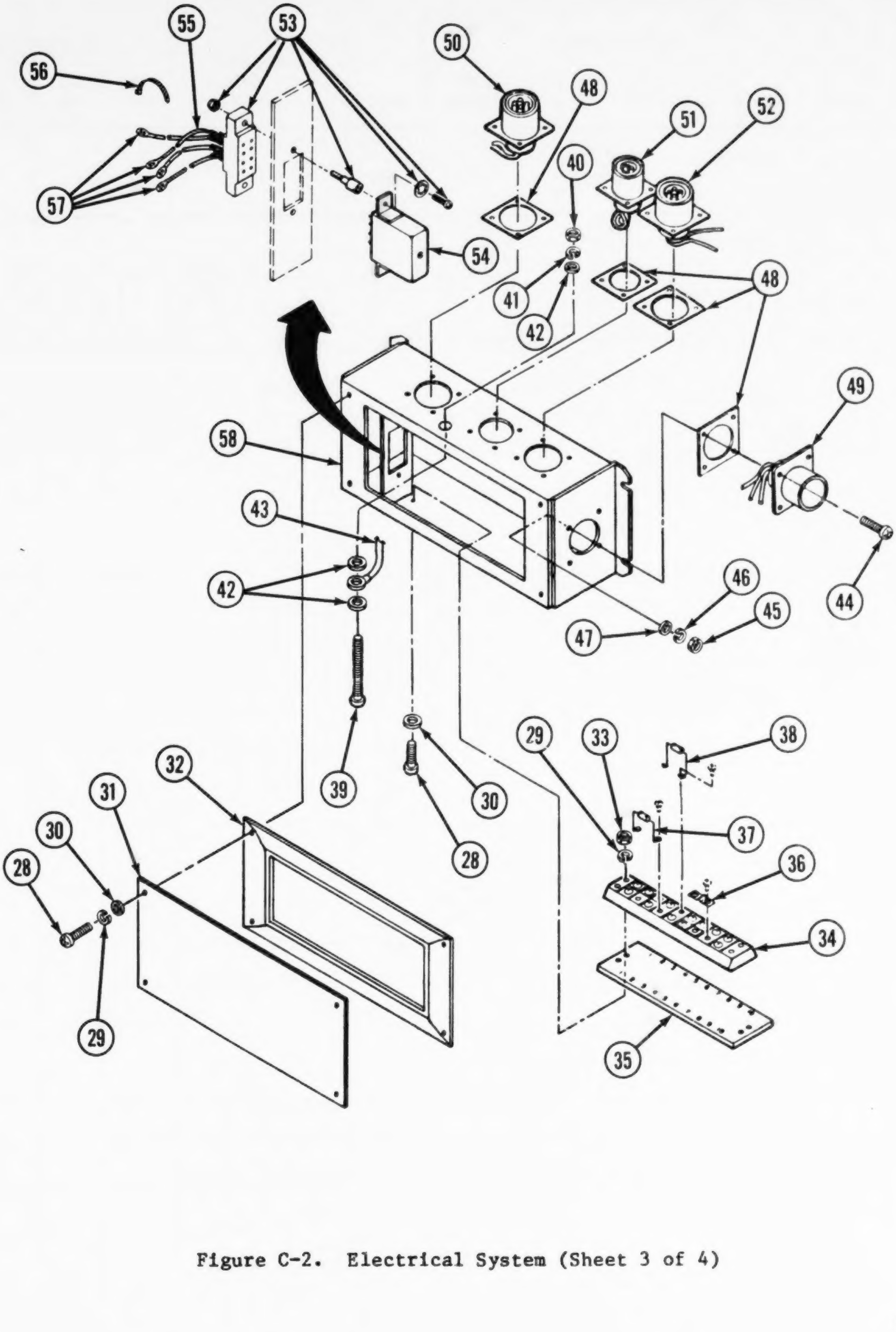

55
53
56
50
48
51
52
40
57
54
41
48
42
49
58
43
42
46
45
44
47
38
29
33
39
30
32
28
37
31
30
36
28
34
29
35

Figure C-2. Electrical System (Sheet 3 of 4)

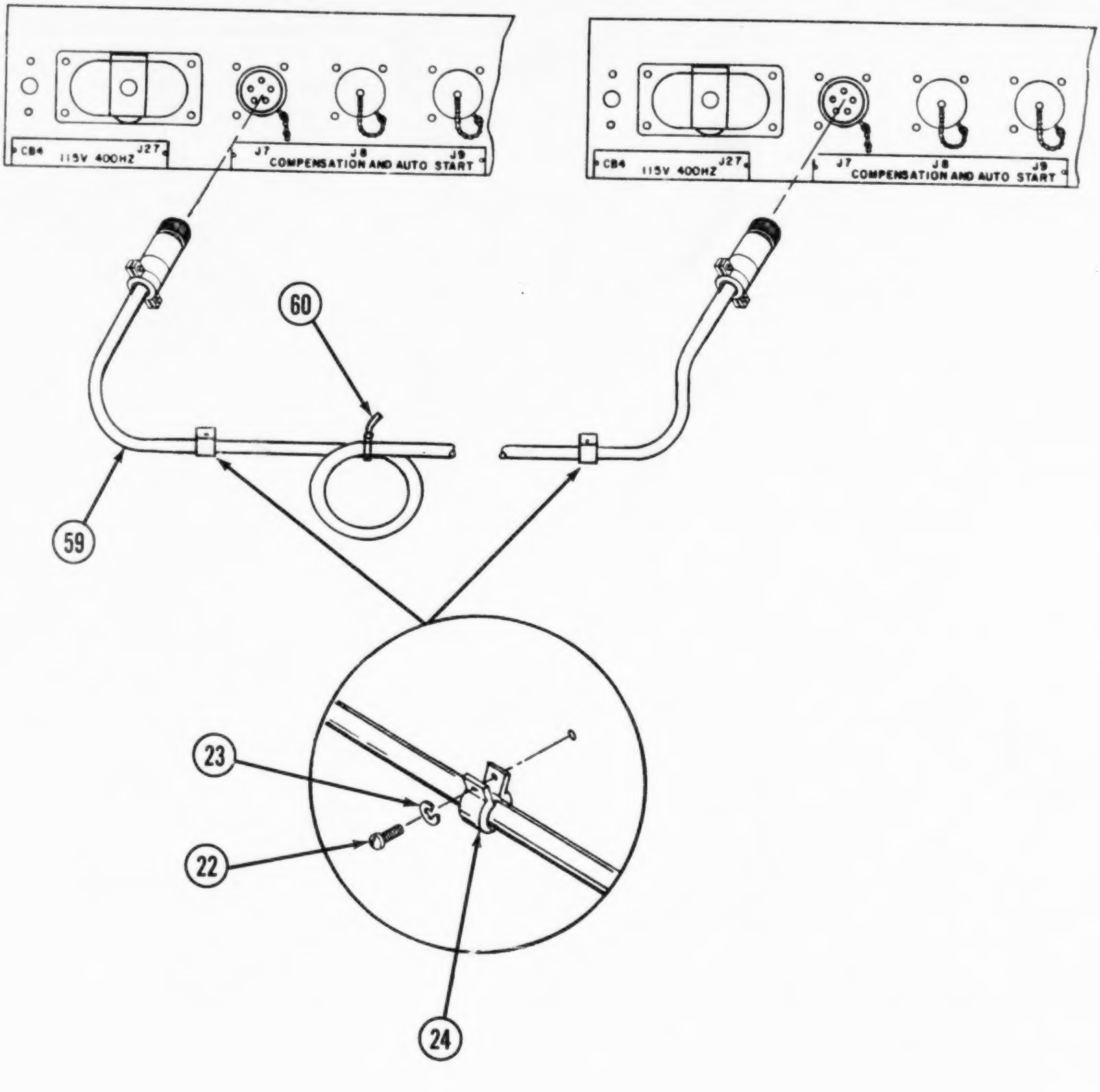

CB4
115V 400HZ
J27
J7
J8
J9
COMPENSATION AND AUTO START
CB4
115V 400HZ
J27
J7
J8
J9
COMPENSATION AND AUTO START
60
59
23
22
24

Figure C-2. Electrical System (Sheet 4 of 4)

(1) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 02 - ELECTRICAL SYSTEM		
C-2	1	PAOZZ	5310-01-078-5996	96906	MS35425-75	Nut, Plain, Wing, UNC-2B, .375-16, BRS	EA	1
C-2	2	PAOZZ	5310-00-187-2413	88044	AN961-616T	Washer, Flat, Electrical, 3/8 Size x .064 THK, BRS	EA	8
C-2	3	MFOFF		97403	13220E0669-7	Wire Assembly, Ground	EA	1
						Make From:		
C-2		PAFZZ		81349	HW-C6(127)J0	.Wire, Electrical	FT	V
C-2		PAFZZ	5940-00-113-8190	96906	MS25036-122	.Terminal, Lug	EA	2
C-2	4	MFOFF		97403	13220E0669-4	Wire Assembly, Ground	EA	1
						Make From:		
C-2		PAFZZ		81349	HW-C6(127)J0	.Wire, Electrical	FT	V
C-2		PAFZZ	5940-00-113-8190	96906	MS25036-122	.Terminal, Lug	EA	1
C-2	5	PAOZZ	5310-01-026-5824	96906	MS16203-39	Nut, Plain, Hex, and Hex Jam, UNC-2B, Nonmagnetic, 3/8 NOM Size x .227 MAX THKNS	EA	3
C-2	6	PAOZZ	5310-00-022-8847	96906	MS35333-110	Washer, Lock, Flat, Internal Teeth, 3/8 NOM Size	EA	2
C-2	7	MFOFF		97403	13226E6163-3	Wire Assembly, Ground	EA	1
						Make From:		
C-2		PAFZZ	6145-00-548-2403	81349	MW-C16(19)J0	.Wire, Electrical	FT	V
C-2		PAFZZ	5940-00-143-4780	96906	MS25036-108	.Terminal, Lug	EA	1
C-2		PAFZZ	5940-00-143-4793	96906	MS25036-110	.Terminal, Lug	EA	1
C-2	8	MFOFF		97403	13226E6163-2	Wire Assembly, Ground	EA	1
						Make From:		
C-2		PAFZZ	6145-00-548-2403	81349	MW-C16(19)J0	.Wire, Electrical	FT	V
C-2		PAFZZ	5940-00-143-4780	96906	MS25036-108	.Terminal, Lug	EA	1
C-2		PAFZZ	5940-00-143-4793	96906	MS25036-110	.Terminal, Lug	EA	1

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
C-2	9	MFOFF		97403	13220E0697-1	Wire Assembly, Ground	EA	1
						Make From:		
C-2		PAFZZ		81349	HW-C6(127)JO	.Wire, Electrical	FT	V
C-2		PAFZZ	5940-00-113-8190	96906	MS25036-122	.Terminal, Lug	EA	1
C-2	10	MFOFF		97403	13226E6163-1	Wire Assembly, Ground	EA	1
						Make From:		
C-2		PAFZZ	6145-00-548-2403	81349	MW-C16(19)JO	.Wire, Electrical	FT	V
C-2		PAFZZ	5940-00-143-4780	96906	MS25036-108	.Terminal, Lug	EA	1
C-2		PAFZZ	5940-00-143-4793	96906	MS25036-110	.Terminal, Lug	EA	1
C-2	11	MFOFF		97403	13220E0697-2	Wire Assembly, Ground	EA	1
						Make From:		
C-2		PAFZZ		81349	HW-C6(127)JO	.Wire, Electrical	FT	V
C-2		PAFZZ	5940-00-113-8190	96906	MS25036-122	.Terminal, Lug	EA	1
C-2	12	PAOZZ	5307-01-134-7295	97403	13221E9300	Stud, Plain, Ground	EA	1
C-2	13	PAOZZ	5305-00-984-6210	96906	MS35206-263	Screw, Machine, Pan Head, Cross-Recessed, CS, CD PLD, UNC-2A, No. 10-24 x .500 L	EA	2
C-2	14	PAOZZ	5310-00-136-1471	88044	AN961-10T	Washer, Flat, Electrical, No. 10 Size x .032 THK, BRS	EA	2
C-2	15	PAOZZ	5310-00-019-0672	96906	MS35333-107	Washer, Lock, Flat, Internal Teeth, No. 10 NOM Size	EA	2
C-2	16	PAOZZ	5305-00-984-6211	96906	MS35206-264	Screw, Machine, Pan Head, Cross-Recessed, CS, CD PLD, UNC-2A, No. 10-24 x .625 L	EA	2
C-2	17	PAOZZ	5310-00-689-3877	96906	MS17829-3C	Nut, Self-Locking, Hex, Regular Height, 250°F, Noncorrosion-Resistant Steel, No. 10-24 UNC-3B CD PLD	EA	6
C-2	18	PAOZZ	5340-01-146-7422	96906	MS21919WCG4	Clamp, Loop-Type, Cushioned, Support, .250 ID, CRES, PSVT	EA	3

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	USABLE ON CODE	U/M	QTY INC IN UNIT
C-2	19	MFOFF		97403	13226E6155-1	Cable Assembly, W2	EA	1
						Make From:		
C-2		PAFZZ	6145-01-129-6897	90484	DDC 04A ABK	.Cable, Power	FT	V
C-2		PAFZZ	5970-00-954-1624	81349	M23053/5-107-0	.Insulation, Sleeving	FT	V
C-2		PAFZZ		81349	D38999/26FD5PN	.Connector, Receptacle, Electric	EA	1
C-2		PAFZZ		06324	390HS002-M1504H4	.Backshell, Connector, Electrical	EA	1
C-2		PAFZZ	5935-00-813-4717	96906	MS3106R14S-2S	.Connector, Receptacle, Electrical	EA	1
C-2		PAFZZ		06324	390BA002-N1404HA	.Backshell, Connector, Electrical	EA	1
C-2	20	MFOFF		97403	13226E6156	Cable Assembly, W3	EA	1
						Make From:		
C-2		PAFZZ	6145-01-131-2752	97403	13222E1425	.Cable, Power	FT	V
C-2		PAFZZ	5970-00-815-1295	81349	M23053/5-106-0	.Insulation, Sleeving	FT	V
C-2		PAFZZ		81349	D38999/26FD5PN	.Connector, Receptacle, Electrical	EA	1
C-2		PAFZZ		97403	13226E6147-11	.Backshell, Connector, Electrical	EA	1
C-2		PAFZZ	5935-00-725-4638	97403	13226E6147-12	.Connector, Receptacle, Electric	EA	1
C-2		PAFZZ		06324	390BA002-N1104HA	.Backshell, Connector, Electrical	EA	1

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
C-2	21	MFOFF		97403	13226E6155-2	Cable Assembly, W4	EA	1
						Make From:		
C-2		PAFZZ	6145-01-129-6897	90484	DDC 04A ABK	.Cable, Power	FT	V
C-2		PAFZZ	5970-00-954-1624	81349	M23053/5-107-0	.Insulation Sleeving	FT	V
C-2		PAFZZ		81349	D38999/26FD5PN	.Connector, Receptacle, Electrical	EA	1
C-2		PAFZZ		06324	390HS002-M1504H4	.Backshell, Connector, Electrical	EA	1
C-2		PAFZZ	5935-00-813-4717	96906	MS3106R14S-2S	.Connector, Receptacle, Electric	EA	1
C-2		PAFZZ		06324	390BA002-N1404HA	.Backshell, Connector, Electrical	EA	1
C-2	22	PAOZZ	5305-00-984-6208	96906	MS35206-261	Screw, Machine, Pan Head, Cross-Recessed, CS, CD PLD, UNC-2A, No. 10-24 x .375 L	EA	2
C-2	23	PAOZZ	5310-00-045-3296	96906	MS35338-43	Washer, Lock-Spring, Helical, Regular (Medium) Series, No. 10 NOM Size, CS, CD PLD	EA	2
C-2	24	PAOZZ	5340-01-099-2296	96906	MS21919WCG10	Clamp, Loop Type, Cushioned	EA	2
C-2	25	PAOFF		97403	13226E6157	Cable Assembly, W6	EA	1
C-2	26	PAFZZ	5310-00-014-5850	96906	MS27183-42	Washer, Flat, Round, Steel, CD PLD, General Purpose, .219 ID x .500 OD x .049 THK BSC	EA	4
C-2	27	PAFFF		97403	13226E6135	Unit, Fuel Distribution	EA	1
C-2	28	PAFZZ	5305-00-054-6656	96906	MS51957-32	.Screw, Machine, Pan Head, Cross-Recessed, CRES, .138-32 x .75 L, UNC-2A	EA	8
C-2	29	PAFZZ	5310-00-929-6395	96906	MS35338-136	.Washer, Lock-Spring, Helical, Regular (Medium) Series, No. 6 NOM Size, CRES, 300 Series, PSVT	EA	8

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8) QTY INC IN UNIT
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	USABLE ON CODE	U/M	
C-2	30	PAFZZ	5310-00-880-5976	96906	MS15795-806	.Washer, Flat, Round, General Purpose, CRES, .156 ID x .375 OD x .049 THKNS	EA	8
C-2	31	PAFZZ		97403	13226E6137	.Cover, Fuel Distribution Unit	EA	1
C-2	32	PAFZZ		07700	43-00256	..Strip, Sealing, Shielding	FT	V
C-2	33	PAFZZ	5310-00-934-9761	96906	MS35649-264	.Nut, Plain, Hex, Machine Screw, .138-32, UNC-2B, CRES, PSVT	EA	4
C-2	34	PAFZZ	5940-00-983-6051	81349	37TB10	.Terminal Board, TB3	EA	1
C-2	35	PAFZZ		75382	MS37TB-10-GME-7E	.Marker Strip	EA	1
C-2	36	PAFZZ	5940-00-147-2972	03950	8723-0091	.Jumper	EA	4
C-2	37	MFFFF		97403	13225E8672-1	.Diode Assembly, CR3	EA	1
						Make From:		
C-2		PAFZZ	5970-01-109-3903	81349	M23053/16-001-0	..Insulation Sleeving	FT	V
C-2		PAFZZ		97403	13220E2844	..Diode, Semiconductor (IN 4001)	EA	1
C-2		PAFZZ	5940-00-681-8185	96906	MS35430-4	..Terminal, Lug	EA	2
C-2	38	MFFFF		97403	13225E8672-2	.Diode Assembly, CR4	EA	1
						Make From:		
C-2		PAFZZ	5970-01-109-3903	81349	M23053/16-001-0	..Insulation Sleeving	FT	V
C-2		PAFZZ		97403	13220E2844	..Diode, Semiconductor (IN 4001)	EA	1
C-2		PAFZZ	5940-00-681-8185	96906	MS35430-4	..Terminal, Lug	EA	2
C-2	39	PAFZZ		96906	MS35212-60	.Screw, Machine, Pan Head, TYPE II, Cross-Recessed, UNC-2A, .190-24 x 1.25 L	EA	1
C-2	40	PAFZZ	5310-00-138-4309	96906	MS35649-206	.Nut, Plain, Hex, Machine Screw, UNC-2B, No. 10-24, Copper Silicon Alloy	EA	1

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
C-2	41	PAFZZ	5310-00-261-8278	96906	MS35338-100	.Washer, Lock-Spring, Helical, Regular (Medium) Series, .190 NOM Size, PH BRZ or Tin, BRS, CD PLD	EA	1
C-2	42	PAFZZ	5310-00-083-7092	96906	MS15795-542	.Washer, Flat, Round, General Purpose, .219 ID x .500 OD x .049 THKNS	EA	3
C-2	43	MFFFF		97403	13226E6163-4	.Wiring Assembly, Ground	EA	1
						Make From:		
C-2		PAFZZ	6145-01-140-9821	81349	M16878/4BHE9	..Wire, Electrical	FT	V
C-2		PAFZZ	5940-00-204-8966	96906	MS25036-102	..Terminal, Lug	EA	1
C-2		PAFZZ	5940-00-143-4771	96906	MS25036-103	..Terminal, Lug	EA	1
C-2	44	PAFZZ	5305-00-054-5651	96906	MS51957-17	.Screw, Machine, Pan Head, Cross-Recessed, CRES, UNC-2A, .112-40 x .50 L	EA	16
C-2	45	PAFZZ	5310-00-934-9748	96906	MS35649-244	.Nut, Plain, Hex, Machine Screw, UNC-2B, .112-40, CRES, PSVT	EA	16
C-2	46	PAFZZ	5310-00-933-8118	96906	MS35338-135	.Washer, Lock-Spring, Helical, Regular (Medium) Series, .112 NOM Size, CRES, 300 Series, PSVT	EA	16
C-2	47	PAFZZ	5310-00-595-6211	96906	MS15795-803	.Washer, Flat, Round, General Purpose, .125 ID x .250 OD x .022 THKNS, CRES, PSVT	EA	16
C-2	48	PAFZZ		07700	48-61434	.Gasket, Receptacle, EMI	EA	4

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	USABLE ON CODE	U/M	QTY INC IN UNIT
C-2	49	MFFFF		97403	13226E6138	.Wiring Harness, J10	EA	1
						Make From:		
C-2		PAFZZ	6145-01-140-9821	81349	M16878/4BHE9	..Wire, Electrical	FT	V
C-2		PAFZZ	5970-00-812-2969	81349	M23053/5-104-0	..Insulation Sleeving	FT	V
C-2		PAFZZ	5970-00-954-1624	81349	M23053/5-107-0	..Insulation Sleeving	FT	V
C-2		PAFZZ		81349	D38999/20FD5PN	..Connector, Receptacle, Electrical	EA	1
C-2		PAFZZ	5975-00-727-5153	96906	MS3367-4-9	..Strap, Tiedown	EA	2
C-2		PAFZZ	5940-00-204-8966	96906	MS25036-102	..Terminal, Lug	EA	3
C-2	50	MFFFF		97403	13226E7765	.Wiring Harness, J7	EA	1
						Make From:		
C-2		PAFZZ	6145-01-140-9821	81349	M16878/4BHE9	..Wire, Electrical	FT	V
C-2		PAFZZ	5970-00-812-2969	81349	M23053/5-104-0	..Insulation Sleeving	FT	V
C-2		PAFZZ	5970-00-954-1624	81349	M23053/5-107-0	..Insulation Sleeving	FT	V
C-2		PAFZZ		81349	D38999/20FD5SN	..Connector, Receptacle, Electrical	EA	1
C-2		PAFZZ	5975-00-727-5153	96906	MS3367-4-9	..Strap, Tiedown	EA	1
C-2		PAFZZ	5940-00-204-8966	96906	MS25036-102	..Terminal, Lug	EA	1
C-2	51	MFFFF		97403	13226E7766	.Wiring Harness, J8	EA	1
						Make From:		
C-2		PAFZZ	6145-01-140-9821	81349	M16878/4BHE9	..Wire, Electrical	FT	V
C-2		PAFZZ	5970-00-812-2969	81349	M23053/5-104-0	..Insulation Sleeving	FT	V
C-2		PAFZZ	5970-00-954-1624	81349	M23053/5-107-0	..Insulation Sleeving	FT	V
C-2		PAFZZ		81349	D38999/20FD5SN	..Connector, Receptacle, Electrical	EA	1
C-2		PAFZZ	5975-00-727-5153	96906	MS3367-4-9	..Strap, Tiedown	EA	1
C-2		PAFZZ	5940-00-204-8966	96906	MS25036-102	..Terminal, Lug	EA	2

(1) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
C-2	52	MFFFF		97403	13226E7771	.Wiring Harness, J9	EA	1
						Make From:		
C-2		PAFZZ	6145-01-140-9821	81349	M16878/4BHE9	..Wire, Electrical	FT	V
C-2		PAFZZ	5970-00-812-2969	81349	M23053/5-104-0	..Insulation Sleeving	FT	V
C-2		PAFZZ	5970-00-954-1624	81349	M23053/5 107-0	..Insulation Sleeving	FT	V
C-2		PAFZZ		81349	D38999/20FD5SN	..Connector, Receptacle, Electrical	EA	1
C-2		PAFZZ	5975-00-727-5153	96906	MS3367-4-9	..Strap, Tiedown	EA	1
C-2		PAFZZ	5940-00-204-8966	96906	MS25036-102	..Terminal, Lug	EA	2
C-2	53	PAFZZ	5935-01-042-7579	91663	HRCL-6JV2	.Socket, Relay, XK4	EA	1
C-2	54	PAFZZ	5945-00-435-1833	81349	M5757/23-003	.Relay, Electrical, DPDT, 10 Amp, K4	EA	1
C-2	55	AFFFF		97403	13226E6139	.Wiring Harness, XK4	EA	1
C-2	55A	PAFFF	6145-01-140-9821	81349	M16878/4BHE9	.Wire, Electrical 18AWG	FT	AR
C-2	56	PAFZZ	5975-00-727-5153	96906	MS3367-4-9	..Strap, Tiedown	EA	4
C-2	57	PAFZZ	5940-00-204-8966	96906	MS25036-102	..Terminal, Lug	EA	4
C-2	58	XDFZZ		97403	13226E6136	.Housing, Fuel Distribution Unit	EA	1
C-2	59	MDODD	6115-01-130-6642	98749	68D22885	Cable Assembly, Auto Start and Compensation	EA	1
						Make From:		
C-2		PAOZZ		30554	80-6115	.Cable, Power	EA	1
C-2		PADZZ		96906	MS3368-1-9A	.Strap, Cable	EA	1
C-2		PAOZZ	9505-00-293-4208	96906	MS20995C32	.Wire, Safety	FT	V
C-2		PAOZZ		96906	MS25042-22D	.Dust Cap Assembly	EA	2
C-2		PADZZ		98749	68C23097-1	.Connector, Plug	EA	2
C-2		PADZZ		96906	MS90561-4	.Grip	EA	2
C-2	60	PAFZZ	5975-00-451-5001	96906	MS3367-3-9	Strap, Tiedown	HD	V

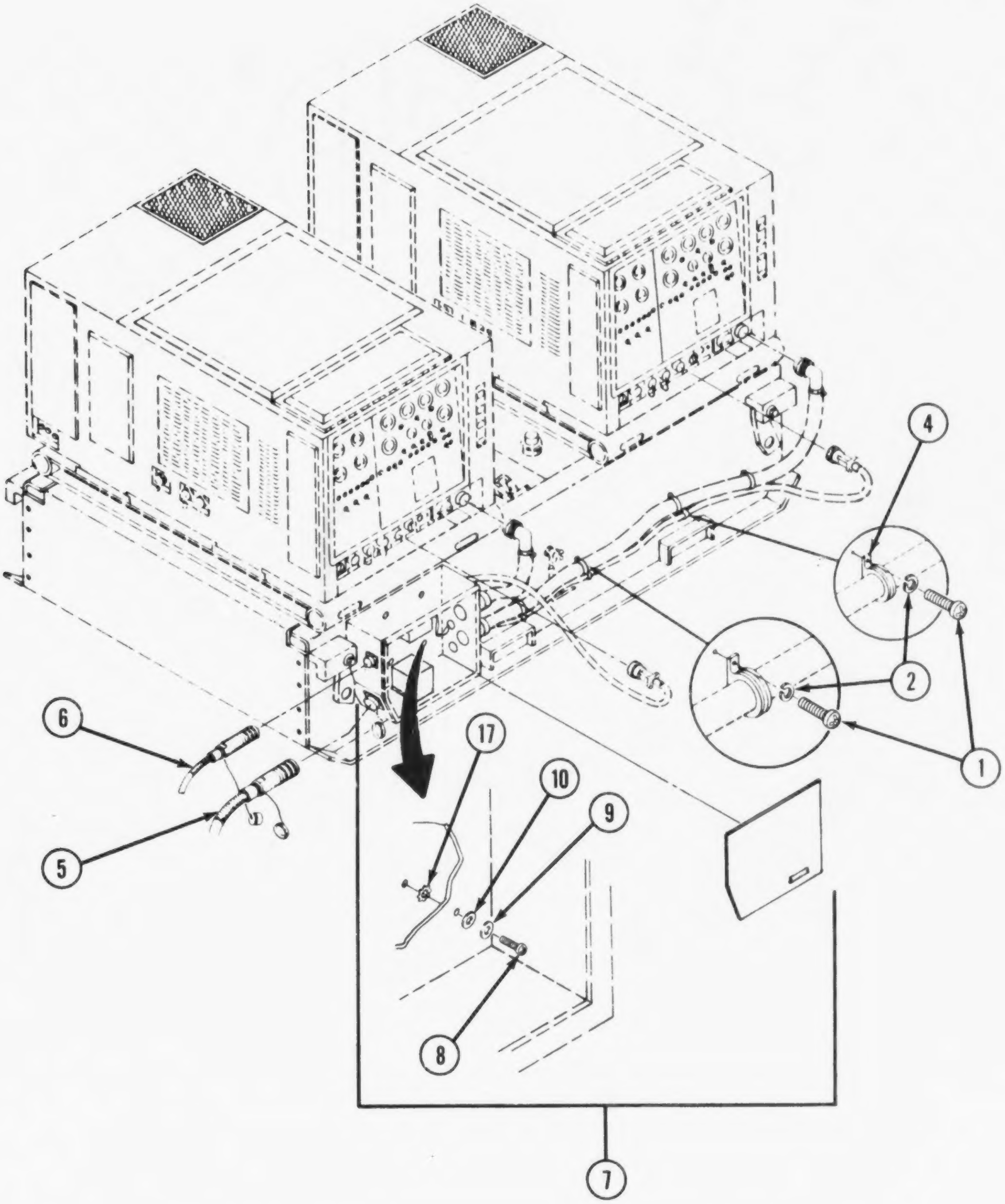

4
2
1
6
5
17
10
9
8
7

Figure C-3. Power Distribution Unit (Sheet 1 of 4)

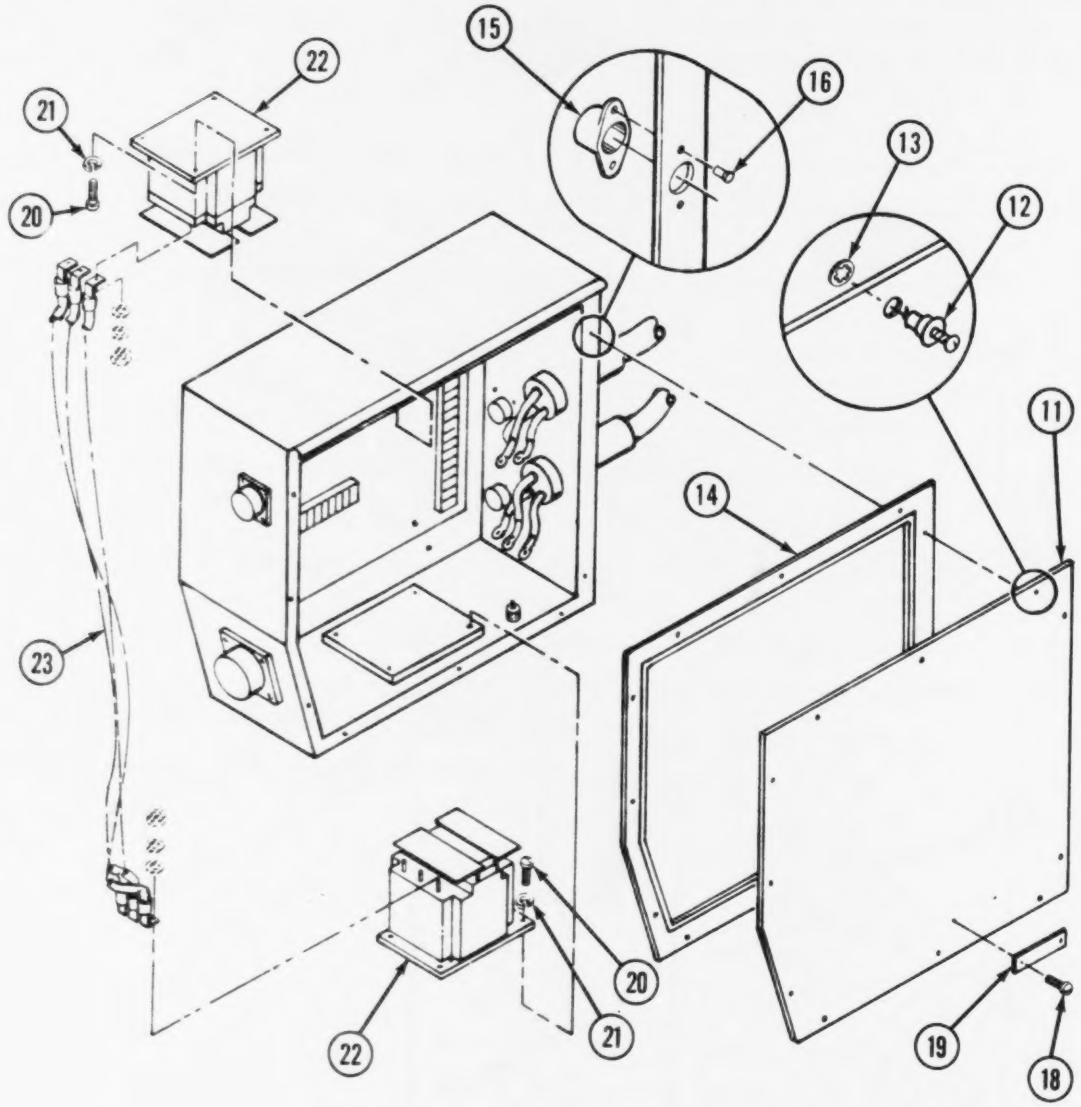

15
22
16
21
13
12
20
11
14
23
20
22
21
19
18

Figure C-3. Power Distribution Unit (Sheet 2 of 4)

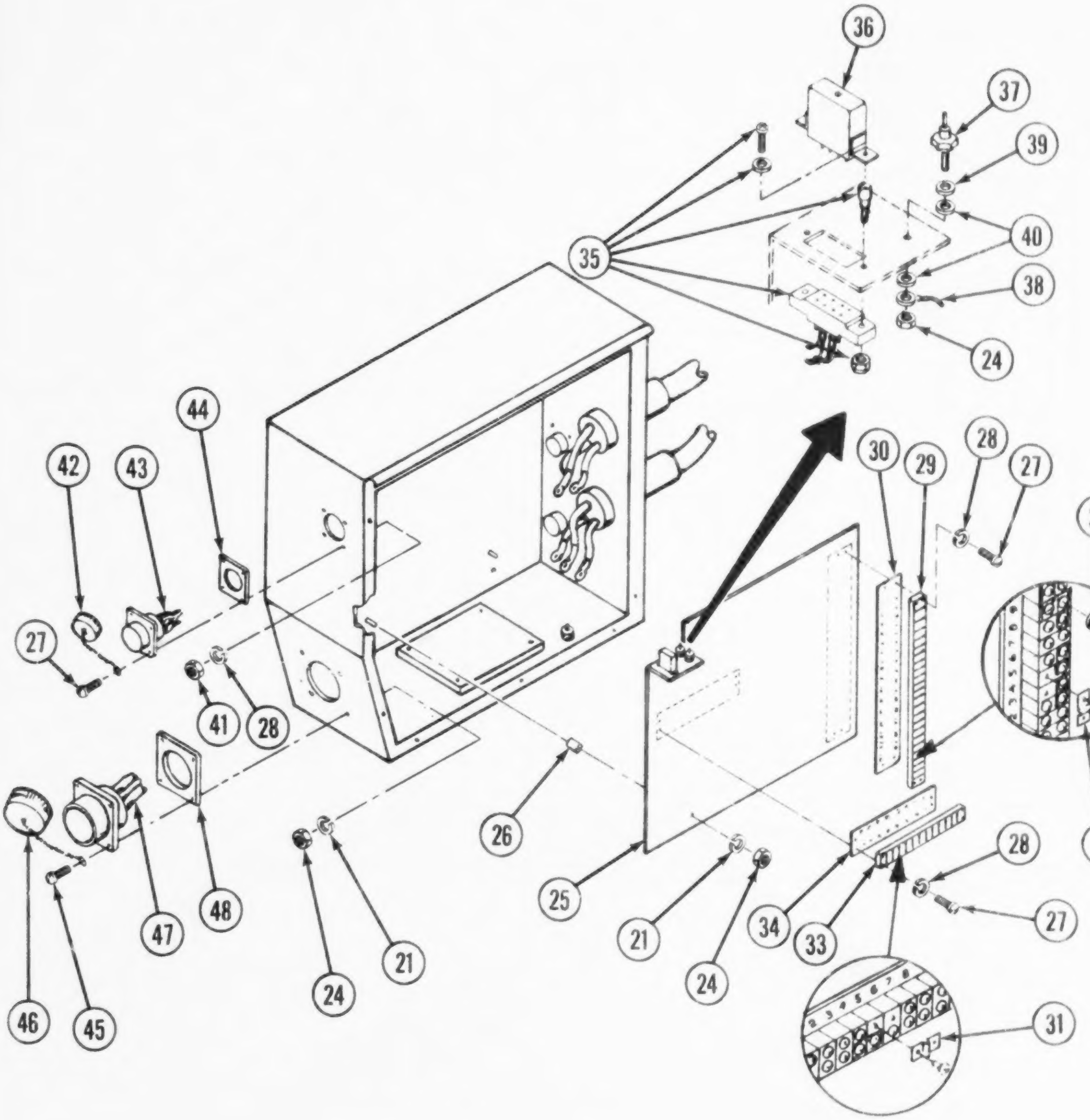
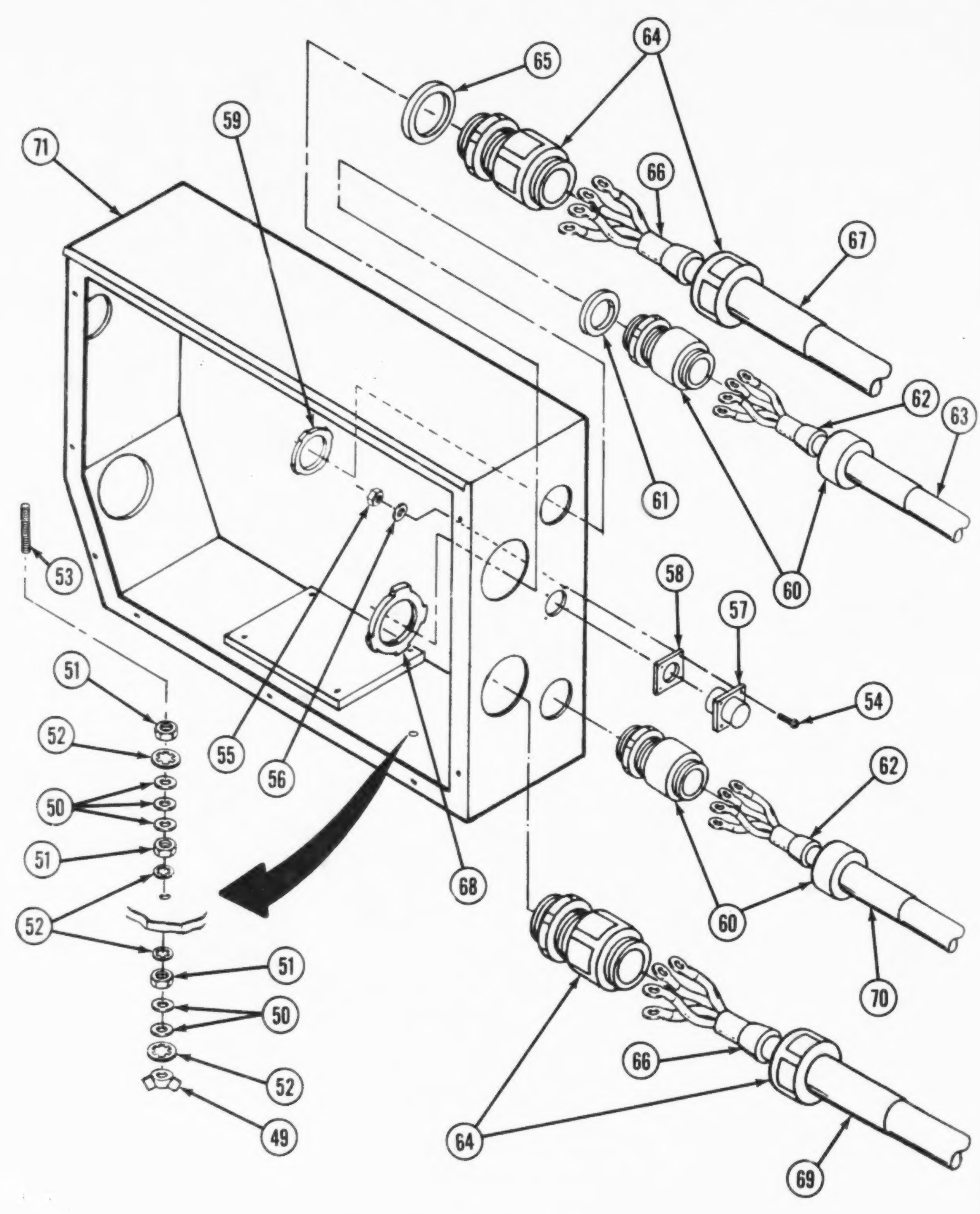

36
37
39
35
40
38
24
44
28
27
42
43
30
29
32
27
41
28
26
31
25
21
24
34
33
28
27
47
48
46
45
24
21
31

Figure C-3. Power Distribution Unit (Sheet 3 of 4)



64
65
59
71
66
67
62
63
61
60
53
58
57
54
51
52
50
51
55
56
62
68
52
60
70
51
50
66
52
49
64
69

Figure C-3. Power Distribution Unit (Sheet 4 of 4)

(1) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 03 - POWER DISTRIBUTION UNIT, EPU		
C-3	1	PAOZZ	5305-00-984-6208	96906	MS35206-261	Screw, Machine, Pan Head, Cross-Recessed, CS, CD PLD, UNC-2A, .190-24 x .375 L	EA	7
C-3	2	PAOZZ	5310-00-045-3296	96906	MS35338-43	Washer, Lock-Spring, Helical, Regular (Medium) Series, .190 NOM Size, CS, CD PLD	EA	7
C-3	3	PAFZZ	5940-00-680-4374	96906	MS21919WCG27	Clamp, Loop-Type, Cushioned, Support, 1.688 ID, CRES, PSVT	EA	4
C-3	4	PAFZZ	5340-00-291-5338	96906	MS21919WCG12	Clamp, Loop-Type, Cushioned, Support, .750 ID, CRES, PSVT	EA	3
C-3	5	MDODD	6115-01-130-7252	97403	13225E9693	Cable Assembly, Power, W1	EA	1
						Make From:		
C-3		PADZZ	6145-01-135-5951	90484	AAC 08A BAC	.Cable, Power	FT	V
C-3		PADZZ	5970-00-834-9119	81349	M23053/5-112-9	.Insulation, Sleeving	FT	V
C-3		PADZZ	5935-01-136-9896	97403	13226E1440	.Connector, Electrical	EA	1
C-3		PADZZ	5935-01-137-3101	97403	13226E1410	.Connector, Electrical	EA	1
C-3		PADZZ	6145-01-143-0040	06090	WCSF-1500-18-A	.Sleeve, Cable	EA	2
C-3	6	MDODD		97403	13222E1440	Cable Assembly, Signal, W5	EA	1
						Make From:		
C-3		PADZZ		18876	MIS-20076/1-005	.Cable	FT	V
C-3		PADZZ		18876	MIS-20045/1-015	.Connector, Plug	EA	2
C-3	7	MDFFF		97403	13226E6140	Power Distribution Unit	EA	1
C-3	8	PAFZZ	5306-00-225-8496	96906	MS90725-31	.Screw, Cap, Hex Head, Steel, Grade 5, CD PLD, UNC-2A, .312-18 x .625 L	EA	4

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
C-3	9	PAFZZ	5310-00-407-9566	96906	MS35338-45	.Washer, Lock-Spring, Helical, Regular (Medium) Series, .312 NOM Size, CS, CD PLD	EA	4
C-3	10	PAFZZ	5310-00-080-6004	96906	MS27183-14	.Washer, Flat, Round, Steel, CD PLD, General Purpose, .406 ID x .812 OD x .065 THK BSC	EA	6
C-3	11	MDFZZ		97403	13226E6143	.Cover, Enclosure	EA	1
C-3	12	PAFZZ		71286	2600-11	..Stud Assembly	EA	12
C-3	13	PAFZZ	5310-00-337-8329	71286	2600-LW	..Washer, Retaining	EA	12
C-3	14	PAFZZ		07700	43-00263	..Strip, Sealing, Shielding	FT	V
C-3	15	PAFZZ	5325-00-584-6638	71286	26R16-1	..Receptacle, Sealed	EA	12
C-3	16	PAFZZ		96906	MS20426A3-5	..Rivet, 100° CSK	EA	24
C-3	17	PAFZZ	5310-00-901-0279	96906	MS45904-74	.Washer, Lock, Internal and External Tooth	EA	4
C-3	18	PAFZZ	5305-00-253-5612	96906	MS21318-15	.Screw, Drive, Round Head, TYPE U, CS, CD PLD, No. 2-8 x 1/4 L	EA	2
C-3	19	XDFZZ		97403	13217E2005	.Plate, Identification	EA	1
C-3	20	PAFZZ	5305-00-059-3658	96906	MS51958-62	.Screw, Machine, Pan Head, Cross-Recessed, UNF-2A, .190-32 x 7/16 L, CRES	EA	8
C-3	21	PAFZZ	5310-00-933-8120	96906	MS35338-138	.Washer, Lock-Spring, Helical, Regular (Medium) Series, 300 Series, .190 NOM Size, CRES, PSVT	EA	16
C-3	22	PAFZZ		97403	13226E7752	.Contactor, K1, K2	EA	2
C-3	23	MFFFF		97403	13226E6150	.Lead, Electrical	EA	3
						Make From:		
C-3		PAFZZ		81349	M16878/8BUM9	..Wire, Electrical	FT	V
C-3		PAFZZ	5970-00-815-1300	81349	M23053/5-110-0	..Insulation Sleeving	FT	V
C-3		PAFZZ	5940-01-149-9012	09922	YAV25-RS	..Terminal, Lug	EA	2

(1) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
C-3	24	PAFZZ	5310-00-934-9765	96906	MS35650-304	.Nut, Plain, Hex, Machine Screw, UNF-2B, .190-32, CRES, PSVT	EA	10
C-3	25	XDFZZ		97403	13226E6142	.Panel, Enclosure	EA	1
C-3	26	PAFZZ	5365-00-723-4264	80205	NAS1057T3-025	.Spacer, Sleeve, .190 Screw Or Bolt DIA x .322 OD x 25 L, CRES, PSVT	EA	4
C-3	27	PAFZZ	5310-00-054-6655	96906	MS51957-31	.Screw, Machine, Pan Head, Cross-Recessed, UNC-2A, .138-32 x .62 L, CRES, PSVT	EA	12
C-3	28	PAFZZ	5310-00-929-6395	96906	MS35338-136	.Washer, Lock-Spring, Helical, Regular (Medium) Series, 300 Series, .138 NOM Size, CRES, PSVT	EA	12
C-3	29	PAFZZ	5940-00-983-6059	81349	37TB18	.Terminal Board, TB1	EA	1
C-3	30	MDFFF		75382	MS37TB-18-GME-7E	.Marker Strip	EA	1
C-3	31	PAFZZ	5940-00-147-2972	03950	8723-0091	.Jumper	EA	7
C-3	32	MDFZZ		97403	13226E7767	.Wiring Harness, PDU	EA	1
						Make From:		
C-3		PAFZZ	6145-01-140-9821	81349	M16878/4BHE9	..Wire, Electrical	FT	V
C-3		PAFZZ	5970-00-812-2967	81349	M23053/5-108-0	..Insulation Sleeving	FT	V
C-3		PAFZZ	5940-00-204-8966	96906	MS25036-102	..Terminal, Lug	EA	17
C-3		PAFZZ	5940-00-143-4773	96906	MS25036-105	..Terminal, Lug	EA	1
C-3		PAFZZ	5940-00-557-1629	96906	MS25036-149	..Terminal, Lug	EA	6
C-3		PAFZZ	5975-00-111-3208	96906	MS3367-5-9	..Strap, Tiedown	HD	V
C-3	33	PAFZZ	5940-00-983-6053	81349	37TB12	.Terminal Board, TB2	EA	1
C-3	34	PAFZZ		75382	MS37TB-12-GME-7E	.Marker Strip	EA	1
C-3	35	PAFZZ	5935-01-042-7579	91663	HRCL-6JV2	.Socket, Relay, XK3	EA	1
C-3	36	PAFZZ	5945-00-435-1833	81349	M5757/23-003	.Relay, Electrical, DPDT, 10 AMP, K3	EA	1

(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
C-3	37	PAFZZ		81349	M19500/260	.Diode (IN1202A), CR1, CR2	EA	2
C-3	38	PAFZZ	5940-00-159-1290	96906	MS77066-4	.Terminal, Lug, Solder Type, No. 12 to 20 AWG x No. 10 Size Screw	EA	2
C-3	39	PAFZZ		80205	NAS47N3A-100	.Spacer, Sleeve, Nonmetallic, .190 Screw Or Bolt DIA x .322 OD x 1.00 L	EA	2
C-3	40	PAFZZ	5310-00-138-4315	96906	MS51859-5	.Washer, Flat, Plastic, .190 NOM Size, .438 OD x .218 ID x .047	EA	4
C-3	41	PAFZZ	5310-00-934-9761	96906	MS35649-264	.Nut, Plain, Hex, Machine Screw, UNC-2B, .138-32, CRES, PSVT	EA	4
C-3	42	PAFZZ	5935-00-060-2286	96906	MS17349C24B	.Cover, Protective, Electrical Connector, Receptacle, Size 24, Type B, 1.7500 THD	EA	1
C-3	43	MDFFF		97403	13226E6149	.Wiring Harness, PDU, J6 Make From:	EA	1
C-3		PAFZZ	6145-01-140-9821	81349	M16878/4BHE9	..Wire, Electrical	FT	V
C-3		PAFZZ	5970-00-812-2969	81349	M25053/5-104-0	..Insulation Sleeving	FT	V
C-3		PAFZZ	5970-00-812-2967	81349	M23053/5-108-0	..Insulation Sleeving	FT	V
C-3		PAFZZ		18876	MIS-20045/2-016	..Connector, Receptacle	EA	1
C-3		PAFZZ	5940-00-204-8966	96906	MS25036-102	..Terminal, Lug	EA	7
C-3		PAFZZ	5975-00-111-3208	96906	MS3367-5-9	..Strap, Tiedown	HD	V
C-3	44	PAFZZ		07700	48-61491	.Gasket, Receptacle, EMI	EA	1
C-3	45	PAFZZ	5305-00-059-3660	96906	MS51958-64	.Screw, Machine, Pan Head, Cross-Recessed, UNF-2A, .190-32 x .62 L, CRES, PSVT	EA	4
C-3	46	PAFZZ	5935-00-060-2294	96906	MS17349C40B	.Cover, Protective, Electrical Connector, Receptacle, Size 40, Type B, 2.7500 THD	EA	1

(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
C-3	47	MDFFF		97403	13226E6146	.Wiring Harness, PDU, J1	EA	1
						Make From:		
C-3		PAFZZ		81349	M16878/8BJE9	..Wire, Electrical	FT	V
C-3		PAFZZ		81349	M16878/8BPL9	..Wire, Electrical	FT	V
C-3		PAFZZ		81349	M16878/8BTM9	..Wire, Electrical	FT	V
C-3		PAFZZ	5970-00-954-1622	81349	M23053/5-105-0	..Insulation, Sleeving	FT	V
C-3		PAFZZ	5970-00-812-2967	81349	M23053/5-108-0	..Insulation, Sleeving	FT	V
C-3		PAFZZ	5970-00-914-3118	81349	M23053/5-109-0	..Insulation, Sleeving	FT	V
C-3		PAFZZ		96906	MS25036-106	..Terminal, Lug	EA	2
C-3		PAFZZ	5940-00-113-8190	96906	MS25036-122	..Terminal, Lug	EA	1
C-3		PAFZZ	5940-00-115-5007	96906	MS25036-130	..Terminal, Lug	EA	3
C-3		PAFZZ		18876	MIS-20045/2-019	..Connector, Receptacle	EA	1
C-3	48	PAFZZ		07700	48-61144	.Gasket, Receptacle, EMI	EA	1
C-3	49	PAFZZ	5310-01-078-5996	96906	MS35425-75	.Nut, Plain, Wing, UNC-2B, .375-16, BRS	EA	1
C-3	50	PAFZZ	5310-00-187-2413	88044	AN961-616T	.Washer, Flat, Electrical, 3/8 Size x .064 THK, BRS	EA	5
C-3	51	PAFZZ	5310-00-410-3032	96906	MS35649-2386	.Nut, Plain, Hex, Machine Screw, UNC-2B, 3/8-16, Copper Silicon Alloy	EA	3
C-3	52	PAFZZ	5310-00-022-8847	96906	MS35333-110	.Washer, Lock, Flat, Internal Teeth, .375 NOM Size	EA	4
C-3	53	PAFZZ	5307-00-227-1741	97403	13214E1223	.Stud, Bolt, Screw, Nut, UNC-2A, .376-16 x 2.75 L, TYPE IV, Silicon - Bronze	EA	1
C-3	54	PAFZZ	5305-00-054-5652	96906	MS51957-18	.Screw, Machine, Pan Head, Cross-Recessed, UNC-2A, .112-40 x 5/8 L, CRES, PSVT	EA	4

(1) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
C-3	55	PAFZZ	5310-00-934-9748	96906	MS35649-244	.Nut, Plain, Hex, Machine Screw, UNC-2B, .112-40 CRES, PSVT	EA	4
C-3	56	PAFZZ	5310-00-933-8118	96906	MS35338-135	.Washer, Lock-Spring, Helical, Regular (Medium) Series .112 NOM Size, 300 Series, CRES	EA	4
C-3	57	MDFFF		97403	13226E6148	.Wiring Harness, PDU, J11	EA	1
						Make From:		
C-3		PAFZZ	6145-01-140-9821	81349	M16878/4BHE9	..Wire, Electrical	FT	V
C-3		PAFZZ	5970-00-954-1622	81349	M23053/5-105-0	..Insulation, Sleeving	FT	V
C-3		PAFZZ	5970-00-815-1295	81349	M23053/5-106-0	..Insulation, Sleeving	FT	V
C-3		PAFZZ	5940-00-204-8966	96906	MS25036-102	..Terminal, Lug	EA	3
C-3		PAFZZ		81349	D38999/20FD5SN	..Connector, Receptacle	EA	1
C-3		PAFZZ	5975-00-727-5153	96906	MS3367-4-9	..Strap, Tiedown	EA	2
C-3	58	PAFZZ		07700	48-61434	.Gasket, Receptacle, EMI	EA	1
C-3	59	PAFZZ	5975-00-714-8031	03743	BL100	Locknut, Conduit	EA	2
C-3	60	PAFZZ		15235	CGFJ311-SG	Sealing Grip, Cable, EMI Bulkhead	EA	2
C-3	61	PAFZZ		07700	30-01712	Gasket, EMI Feed-Thru Connector	EA	2
C-3	62	PAFZZ		97403	13226E6162-1	Bushing	EA	2
C-3	63	PAFZZ		97403	13226E6159-1	Cable Assembly, Signal, Generator Set to PDU, W7	EA	1
C-3	64	PAFZZ		15235	CGFJ624-SG	Sealing Grip, Cable, EMI Bulkhead	EA	2
C-3	65	PAFZZ		07700	30-01713	Gasket, EMI Feed-Thru Connector	EA	2
C-3	66	PAFZZ		97403	13226E6162-2	Bushing	EA	2

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8) QTY INC IN UNIT
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	USABLE ON CODE	U/M	
C-3	67	MDFDD		97403	13226E6158-1	Cable Assembly, Power, Generator Set to PDU, W9	EA	1
						Make From:		
C-3		PADZZ	6145-01-135-5951	90484	AAC 08A BAC	.Cable, Power	FT	V
C-3		PADZZ	5970-00-812-2967	81349	M23053/5-108-0	.Insulation Sleeving	FT	V
C-3		PADZZ	5970-00-914-3118	81349	M23053/5-109-0	.Insulation Sleeving	FT	V
C-3		PADZZ	5970-00-834-9119	81349	M23053/5-112-0	.Insulation Sleeving	FT	V
C-3		PADZZ	5940-00-113-8190	96906	MS25036-122	.Terminal, Lug	EA	1
C-3		PADZZ	5940-00-115-5007	96906	MS25036-130	.Terminal, Lug	EA	3
C-3		PADZZ		96906	MS3108R36-5P	.Connector, Plug	EA	1
C-3		PADZZ		06324	390BB002N-2632HA	.Backshell, Connector	EA	1
C-3	68	PAFZZ	5975-00-642-7263	03743	BL200	Locknut, Conduit	EA	2
C-3	69	MDFDD		97403	13226E6158-2	Cable Assembly, Power, Generator Set to PDU, W10	EA	1
						Make From:		
C-3		PADZZ	6145-01-135-5951	90484	ACC 08A BAC	.Cable, Power	FT	V
C-3		PADZZ	5970-00-812-2967	81349	M23053/5-108-0	.Insulation Sleeving	FT	V
C-3		PADZZ	5970-00-914-3118	81349	M23053/5-109-0	.Insulation Sleeving	FT	V
C-3		PADZZ	5970-00-834-9119	81349	M23053/5-112-0	.Insulation Sleeving	FT	V
C-3		PADZZ	5940-00-113-8190	96906	MS25036-122	.Terminal, Lug	EA	1
C-3		PADZZ	5940-00-115-5007	96906	MS25036-130	.Terminal, Lug	EA	3
C-3		PADZZ		96906	MS3108R36-5P	.Connector, Plug	EA	1
C-3		PADZZ		06324	390BB002N-2632HA	.Backshell, Connector	EA	1
C-3	70	PAFZZ		97403	13226E6159-2	Cable Assembly, Signal, Generator Set to PDU, W8	EA	1
C-3	71	MDFFZ		97403	13226E6141	Enclosure, Power Distribution Unit	EA	1

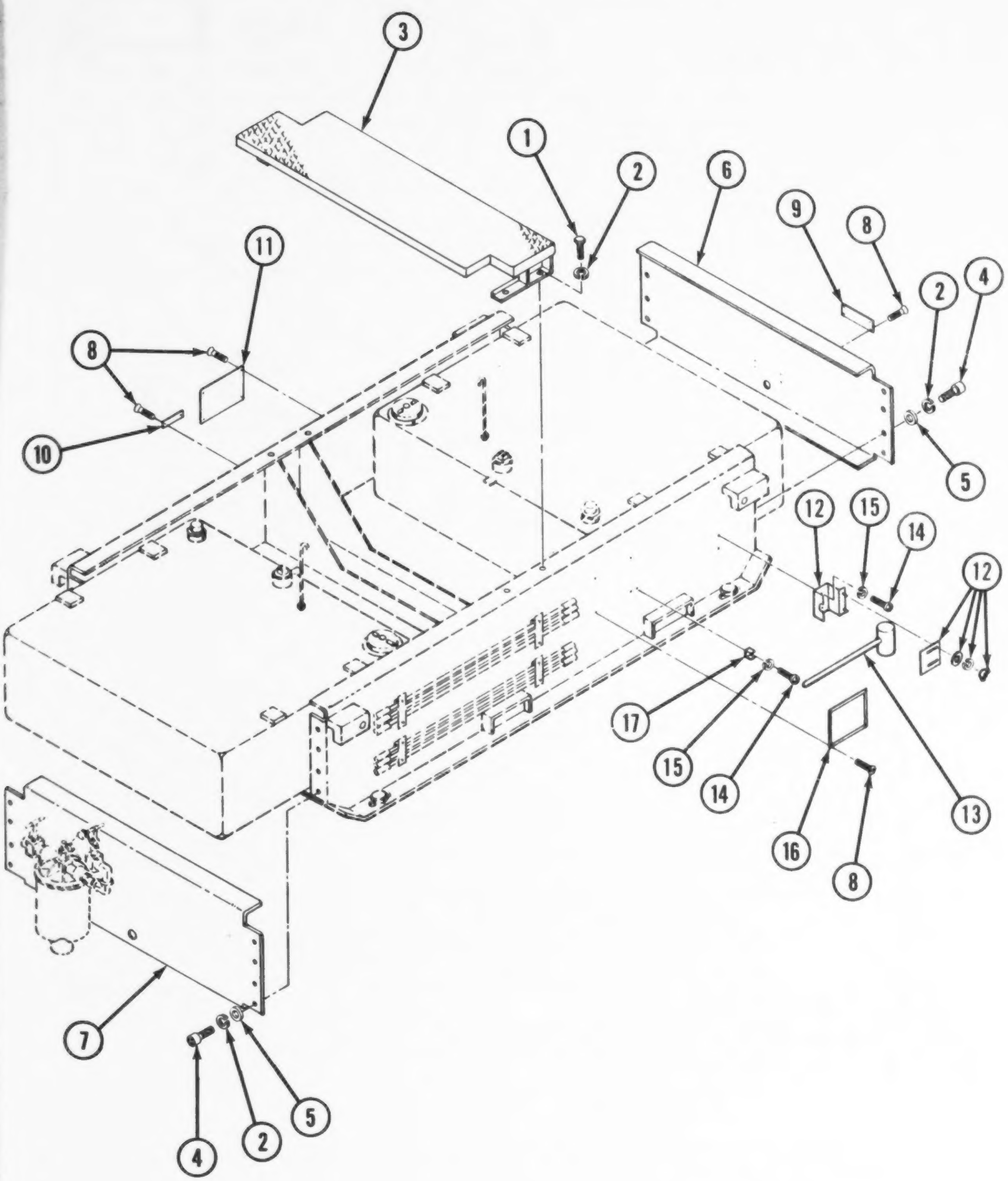

3
1
2
6
9
8
2
4
11
8
10
5
12
15
14
12
17
15
14
13
16
8
7
4
2
5

Figure C-4. Pallet Assembly (Sheet 1 of 2)

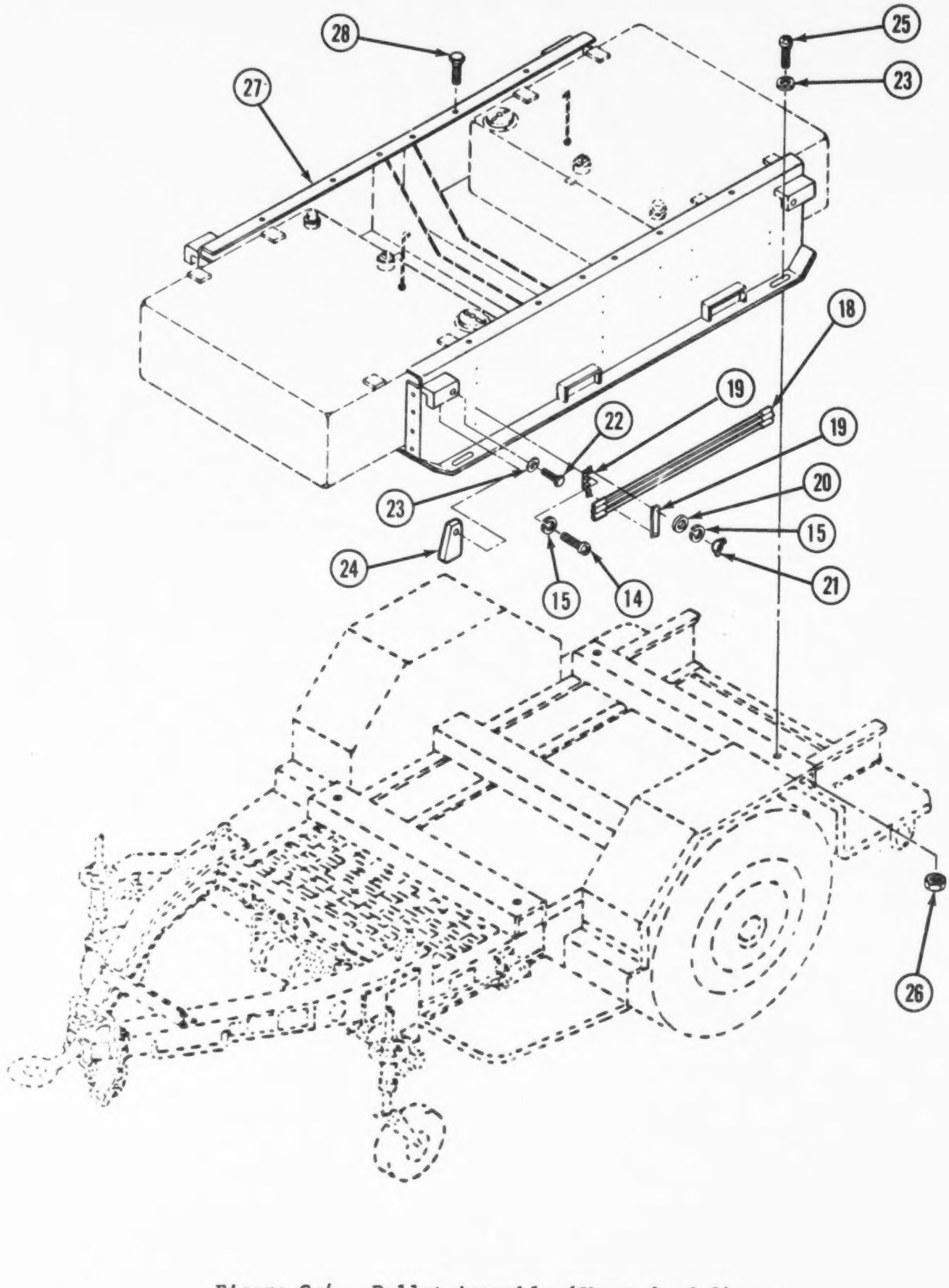

28
27
25
23
18
19
22
19
20
23
15
24
15
14
21
26

Figure C-4. Pallet Assembly (Sheet 2 of 2)

(1) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 04 - PALLET ASSEMBLY		
C-4	1	PAOZZ	5306-00-225-8499	96906	MS90725-34	Screw, Cap, Hex Head, Steel, Grade 5, 5/16-18 x 1.000 L	EA	4
C-4	2	PAOZZ	5310-00-407-9566	96906	MS35338-45	Washer, Lock-Spring, Helical, Regular (Medium) Series, .312 NOM Size, CS, CD PLD	EA	20
C-4	3	XBOZZ		97403	13220E0667	Walkway	EA	1
C-4	4	PAOZZ	5306-00-225-8497	96906	MS90725-32	Screw, Cap, Hex Head, Steel, Grade 5, CD PLD, UNC-2A, 5/16-18 x .750 L	EA	16
C-4	5	PAOZZ	5310-00-081-4219	96906	MS27183-12	Washer, Flat, Round, Steel, CD PLD, General Purpose, .344 ID x .688 OD x .065 THK BSC	EA	16
C-4	6	XBFZZ		97403	13220E0646	Plate, Rear End Pallet	EA	1
C-4	7	XBFZZ	6115-01-137-3096	97403	13226E0912	Plate, Front End Pallet	EA	1
C-4	8	PAOZZ	5305-00-253-5612	96906	MS21318-15	Screw, Drive, Round Head, TYPE U, CS, CD PLD, No. 2-8 x 1/4 L	EA	16
C-4	9	XDOZZ		97403	13226E6144	Plate, Schematic Diagram	EA	1
C-4	10	XDOZZ		97403	13217E2005	Plate, Identification	EA	1
C-4	11	XDOZZ		97403	13226E1567	Plate, Fuel Diagram	EA	1
C-4	12	XDOZZ	5340-00-999-6277	97403	13214E1214	Bracket Assembly	EA	1
C-4	13	PAOZZ		81348	GGG-H-86	Hammer, 8 Lb, Type X, Class I	EA	1
C-4	14	PAOZZ	5305-00-988-1724	96906	MS35206-280	Screw, Machine, Pan Head, Cross-Recessed, CS, CD PLD, UNC-2A, 1/4-20 x .625 L	EA	11
C-4	15	PAOZZ	5310-00-582-5965	96906	MS35338-44	Washer, Lock-Spring, Helical, Regular (Medium) Series, .250 NOM Size, CS, CD PLD	EA	11
C-4	16	XDOZZ		97403	13220E0734	Plate, Data Handling	EA	1

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
C-4	17	PAOZZ	5340-00-914-2578	97403	13214E1213-1	Clip, Spring	EA	1
C-4	18	PAOZZ	5975-00-296-5324	81348	W-R-550	Rod, Ground, 3 Ft Sections, Class B, .625 DIA, Type III	EA	2
C-4	19	XBOZZ	2590-00-932-7298	97403	13212E3617	Clamp, Ground Rod	EA	4
C-4	20	XBOZZ	5310-00-809-4058	96906	MS27183-10	Washer, Flat, Round, Steel, CD PLD, General Purpose, .281 ID x .625 OD x .065 THK BSC	EA	2
C-4	21	XBOZZ	5310-01-064-8787	96906	MS35425-70	Nut, Plain, Wing, 1/4-20, UNC-2B, CD PLD, Steel	EA	2
C-4	22	PAOZZ	5306-00-864-5939	80205	NAS1297-10-24	Bolt, Shoulder, Hex Head, UNJF-3A, .625-18 x 2.451 L	EA	4
C-4	23	PAOZZ	5310-00-809-8536	96906	MS27183-24	Washer, Flat, Round, Steel, CD PLD, General Purpose, .812 ID x 2.000 OD x .148 THK, BSC	EA	10
C-4	24	XDOZZ		97403	13220E0649	Ear, Lifting	EA	4
C-4	25	PAOZZ	5305-00-922-7994	96906	MS90725-189	Screw, Cap, Hex Head, Steel, 3/4 - 10 x 2.500 L	EA	6
C-4	26	PAOZZ	5310-00-067-6356	96906	MS51922-57	Nut, Self-Locking, Hex, Prevailing Torque, 250° F, UNC-2B and UNF-23, 3/4 - 10, CS, CD PLD	EA	6
C-4	27	XBFHH		97403	13226E1565	Pallet	EA	1
C-4	28	PAOZZ	5305-00-044-4153	96906	MS90725-109	Screw, Cap, Hex Head, Steel, CD PLD, UNC-2A, 1/2-13 x 1.000 L	EA	8

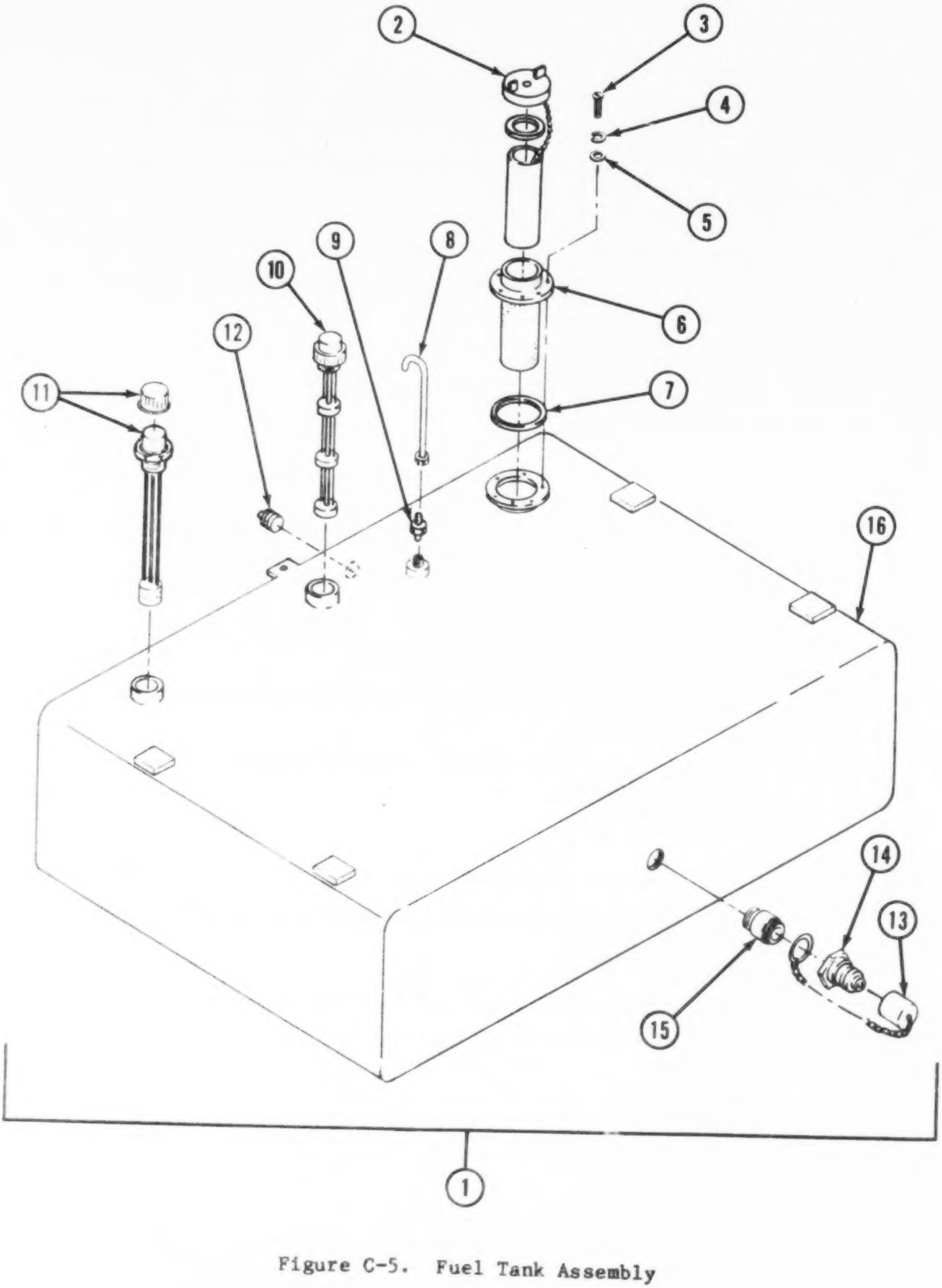

2
3
4
5
6
7
8
9
10
11
12
16
14
13
15
1

Figure C-5. Fuel Tank Assembly

(1) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 0503 - FUEL TANK ASSEMBLY		
C-5	1	XDFFF		97403	13220E0660	Fuel Tank Assembly	EA	2
C-5	2	PAOZZ	2910-00-459-8447	96906	MS53075-1	.Cap, Fuel Tank, Tactical Vehicle, Non-Vented, Sty, 1 with Tabs	EA	1
C-5	3	PAOZZ	5305-00-050-9229	96906	MS51957-63	.Screw, Machine, Pan Head, Cross-Recessed, No. 10-24 x 1/2 L, CRES, PSVT	EA	5
C-5	4	PAOZZ	5310-00-933-8120	96906	MS35338-138	.Washer, Lock-Spring, Helical, No. 10 NOM Size, 300 Series, CRES, PSVT	EA	5
C-5	5	PAOZZ	5310-00-619-1148	96906	MS15795-808	.Washer, Flat, Metal, Round, .219 ID x .438 OD x .049 THKNS, CRES, PSVT	EA	5
C-5	6	PAOZZ		97403	13222E9698	.Filler Neck, Fuel Tank	EA	1
C-5	7	PAOZZ	5330-01-137-3172	97403	13222E6988	.Gasket, Filler Neck	EA	1
C-5	8	PAOZZ	4710-01-134-7298	97403	13220E0656	.Vent, Fuel Tank	EA	1
C-5	9	PAOZZ	4730-00-080-8908	96906	MS51500B6	.Adapter, Straight, Pipe to Tube, Male Pipe End, 37° Flared, 3/8 Tube OD x 1/4 NPTF x 9/16 - 18 UNF-2A	EA	1
C-5	10	PAOZZ	6680-01-132-0765	04034	LS-50705	.Sensor, Fuel-Level	EA	1
C-5	11	PAOZZ	6680-01-130-3230	97403	13220E0663	.Gage, Fuel-Level	EA	1
C-5	12	PAOZZ	4730-00-057-5555	96906	MS49005-6	.Plug, Pipe, Headless, 3/8 - 18 NPTF, Hex, SKT HD, Iron or Steel, UNCTD	EA	1
C-5	13	XDOZZ	5340-01-140-5473	87373	5209-3	.Cap, Dust	EA	1
C-5	14	PAOZZ		87373	4010-3	.Insert, Quick Disconnect	EA	1
C-5	15	PAOZZ	4730-00-186-7785	88044	AN911-3D	.Nipple, Pipe, 3/8 ANPT x 1-15/32 L	EA	1
C-5	16	XDFZZ		97403	13220E0651	.Tank, Fuel	EA	1

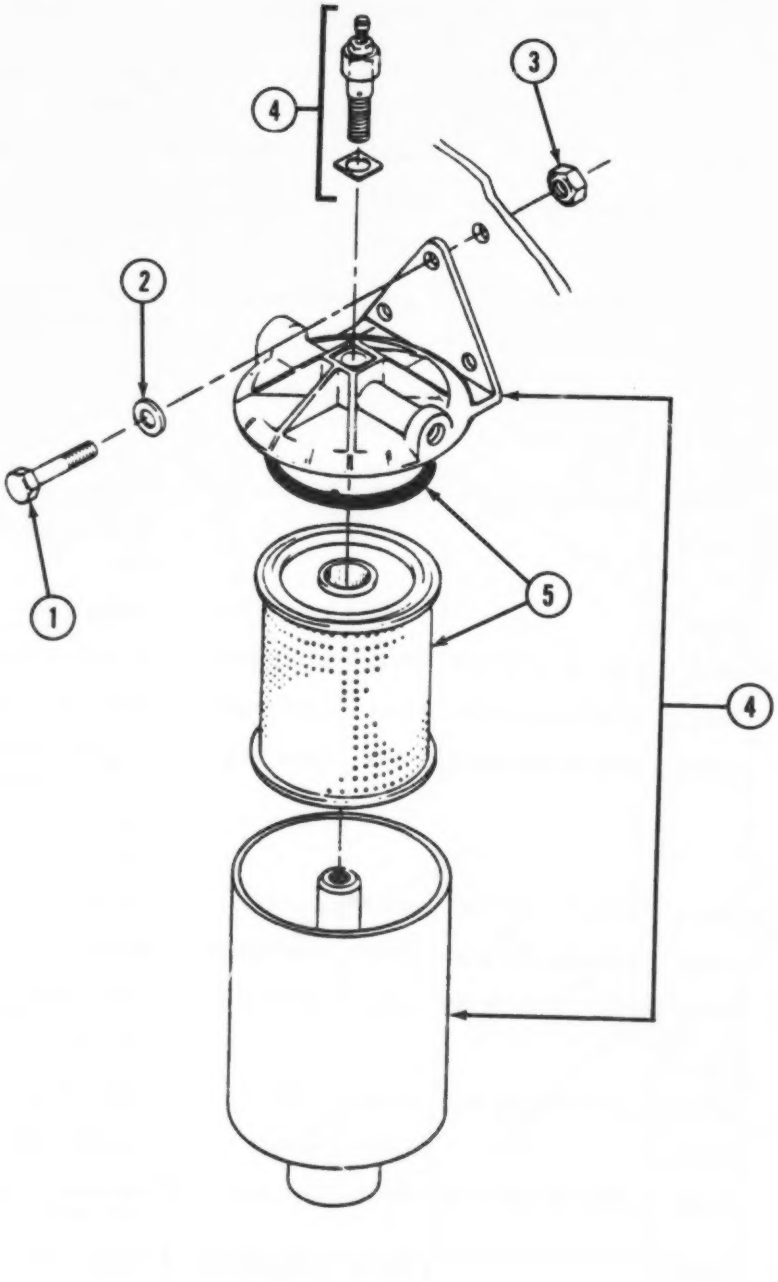


Figure C-6. Fuel Filter/Water Separator

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 0504 - FUEL FILTER/ WATER SEPARATOR		
C-6	1	PAOZZ	5305-00-269-2807	96906	MS90726-64	Screw, Cap, Hex Head, Steel, Grade 5, CD PLD, UNF-2A, .375 - 24 x 1.500 L	EA	3
C-6	2	PAOZZ	5310-00-080-6004	96906	MS27183-14	Washer, Flat, Round, Steel, CD PLD, General Purpose, .406 ID x .812 OD x .065 THK BSC	EA	3
C-6	3	PAOZZ	5310-00-950-0039	96906	MS21044N6	Nut, Self-Locking, Hex, Regular Height, 250°F, .375 - 24, UNJF-3B, CD PLD	EA	3
C-6	4	PAOZZ	4930-00-477-8276	33457	256546	Fuel Filter/Water Separator Assembly	EA	1
C-6	5	PAOZZ	2910-00-163-5752	33457	FS1201	.Element, Fuel Filter/ Water Separator	EA	1

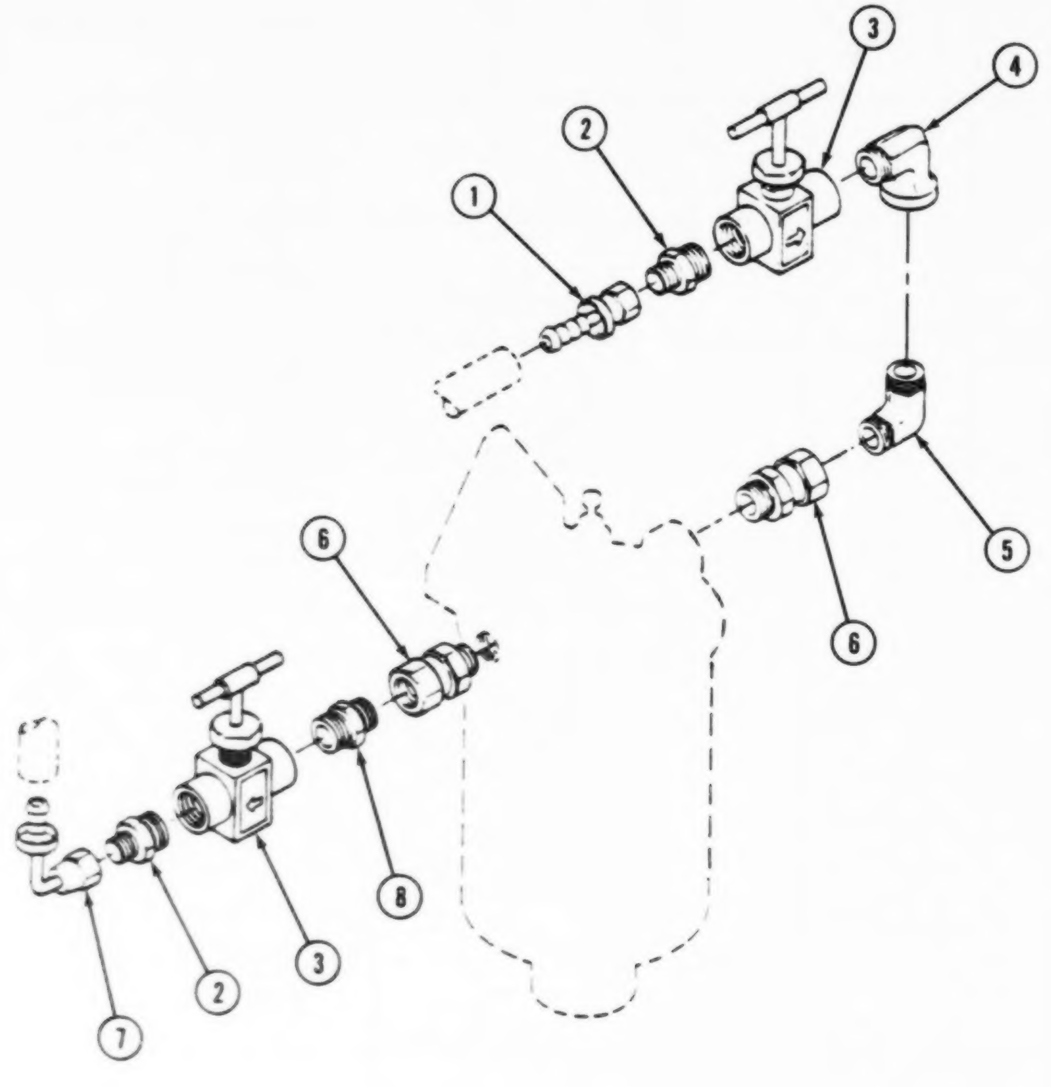

1
2
3
4
5
6
6
8
3
2
7

Figure C-7. Fuel Shutoff Valves

(1) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 0505 - FUEL SHUTOFF VALVES		
C-7	1	PAOZZ	4730-01-137-3099	97403	13222E7029-2	Fitting, Socketless, 37° (JIC) Swivel	EA	1
C-7	2	PAOZZ	4730-01-137-3094	97403	13226E1335-1	Adapter, 1/2 - 14 NPT, .5625 - 18 UNF-2B	EA	2
C-7	3	PAOZZ	4820-01-137-3095	12623	S-18KF8	Valve, Shutoff, 1/2 - 14 NPT	EA	2
C-7	4	PAOZZ	4730-01-137-3168	13174	25UA-08	Elbow, Male, Pipe to Pipe, 90° Steel, SAE-J514	EA	1
C-7	5	PAOZZ	4730-01-137-3169	13174	25UG-08	Hydraulic Tube Fitting, 90° Street Elbow, 1/2 - 14, SAE-J514	EA	1
C-7	6	PAOZZ	4730-01-137-5485	01276	2216-8-10S	Adapter, 1/2 - 14 NPT, .875 - 14 UNF	EA	1
C-7	7	PAOZZ	4730-01-137-3098	97403	13222E9706-2	Fitting, Hose, 90° Swivel	EA	1
C-7	8	PAOZZ	4730-00-314-1738	01276	2083-8-8S	Nipple, Pipe, Hex, 1/2 - 14 NPT, Steel, SAEJ514	EA	1

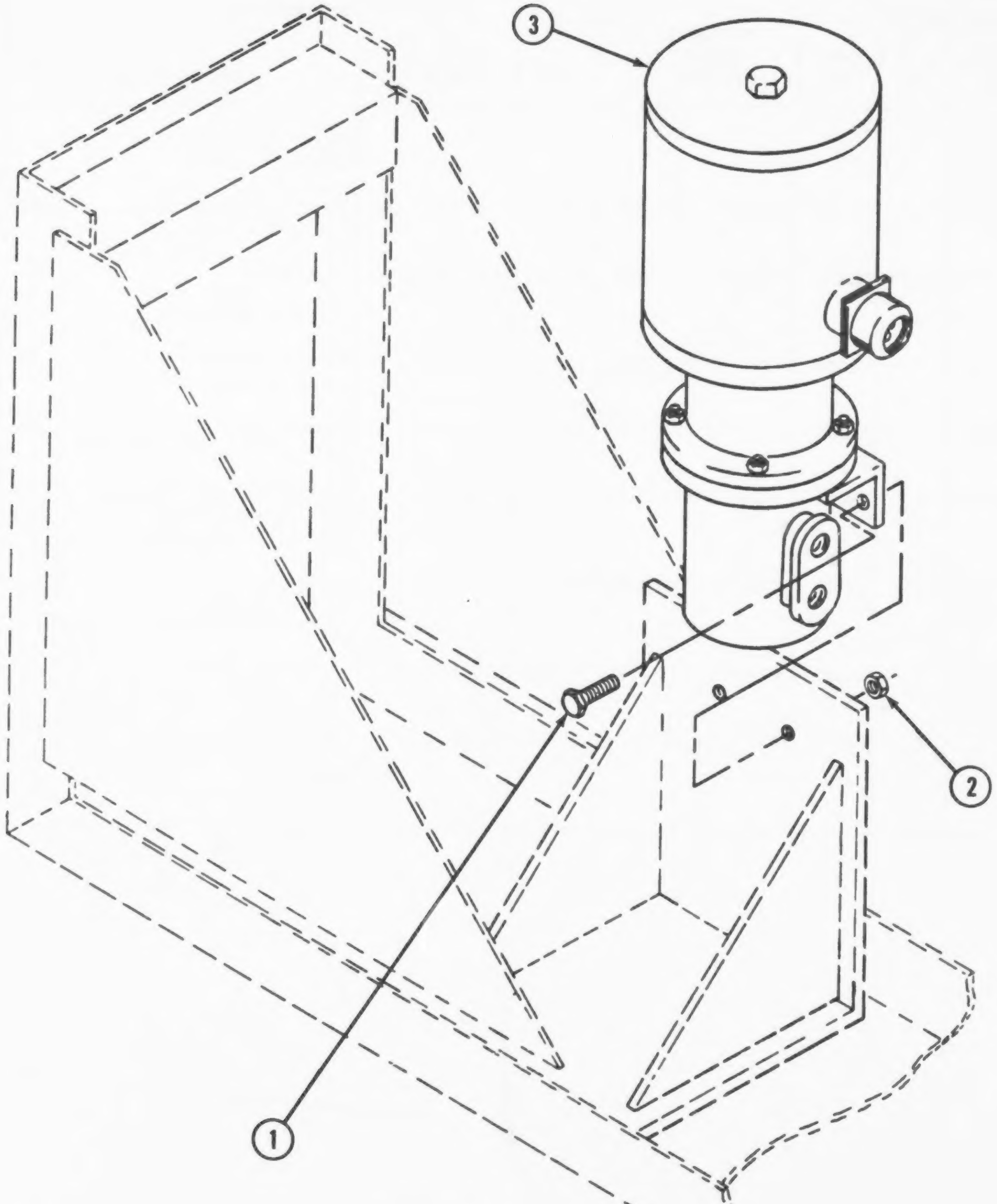


Figure C-8. Solenoid Valve Assembly

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8) QTY INC IN UNIT
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	USABLE ON CODE	U/M	
						GROUP 0506 - SOLENOID VALVE ASSEMBLY		
C-8	1	PAOZZ	5305-00-269-3211	96906	MS90725-60	Screw, Cap, Hex Head, Steel, Grade 5, CD PLD, UNC-2A, 3/8 - 16 x 1.000 L	EA	2
C-8	2	PAOZZ	5310-00-087-4652	96906	MS51922-17	Nut, Self-Locking, Hex, General Purpose, 250°F, UNC-2B and UNF-2B, 3/8-16, CS, CD PLD	EA	2
C-8	3	PAOZZ	4810-01-130-3223	97403	13220E0655	Valve Assembly, Solenoid	EA	1

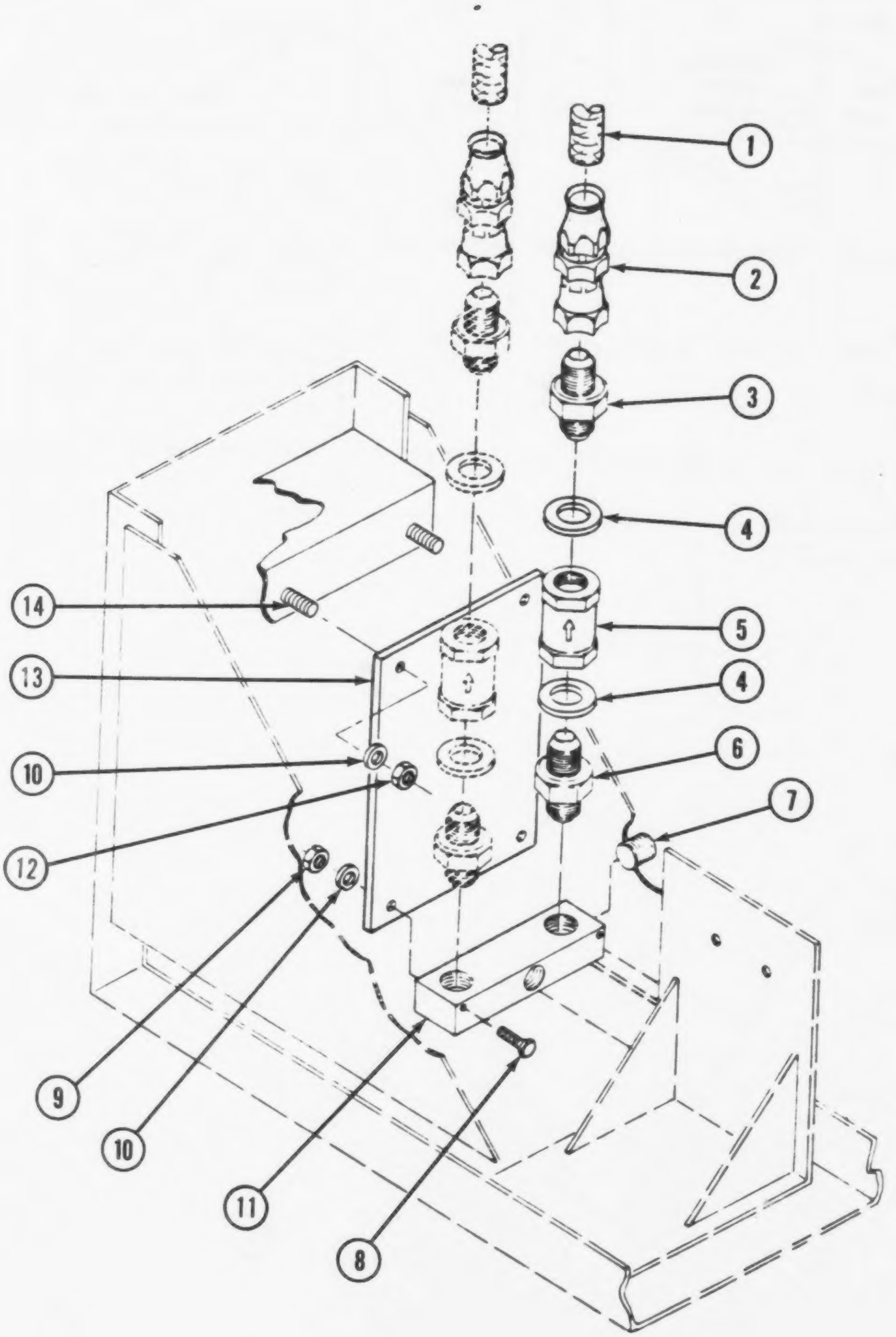

1
2
3
4
5
4
6
7
14
13
10
12
9
10
11
8

Figure C-9. Fuel Check Valve Assembly

(1) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 0507 - FUEL CHECK VALVE ASSEMBLY		
C-9	1	PAFZZ		01276	2807-5	Hose, Extruded Teflon	IN	V
C-9	2	PAFZZ		01276	63-190600-5	Fitting, 37° Swivel	EA	2
C-9	3	PAOZZ	4730-00-805-5098	96906	MS24399-8	Reducer, Tube, Straight, Tube to Boss, .312 x .375 NOM Tube Size, .500 - 20 UNJF-3A x .5626-18 UNJF-3A	EA	2
C-9	4	PAOZZ	5330-00-804-5695	88044	AN902B6	Packing, Preformed, Straight Thread Tube Fitting to Boss, 3/8 Tube OD x .078 DIA Cross Section	EA	4
C-9	5	PAOZZ	4820-00-202-5939	96906	MS28882A-6	Valve, Fuel Check, Low Pressure, Gasket Seal, Straight Thread Connection, CL A, .375 Tubing OD x 2.031 L	EA	2
C-9	6	PAOZZ	4730-01-137-3100	98660	R1000-6-6	Adapter, Male Pipe to Straight Thread, 3/8 - 18 NPTF, .5625 - 18, UNF-2A	EA	2
C-9	7	PAOZZ	4730-00-057-5555	96906	MS49005-6	Plug, Pipe Headless, 3/8 - 18 NPTF, Hex, SKT HP	EA	1
C-9	8	PAOZZ	5306-00-151-0776	88044	AN3-20A	Bolt-Machine, Aircraft, .190 - 32 x 2.00 L, UNF-3A	EA	2
C-9	9	PAOZZ	5310-00-877-5797	96906	MS21044N3	Nut, Self-Locking, Hex, 250°F, .1900-32 UNJF-3B, CD PLD	EA	2
C-9	10	PAOZZ	5310-00-014-5850	96906	MS27183-42	Washer, Flat, Round, Steel, CD PLD, .219 ID x .500 OD x .049 THK BSC	EA	4
C-9	11	PAOZZ	4730-01-137-3093	97403	13226E1131	Manifold, Fuel	EA	1
C-9	12	PAOZZ	5310-00-689-3877	96906	MS17829-3C	Nut, Self-Locking, Hex, 250°F, Nonmetallic Insert, Noncorrosion-Resistant Steel, No. 10-24, UNC-3B, CD PLD	EA	2

(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
C-9	13	XBOZZ		97403	13226E1132	Plate, Manifold Mount	EA	1
C-9	14	PAFZZ	5307-00-901-4462	46384	FHS-024-10	Stud, Self-Clinching, No. 10-24, UNC-2A, .625 x .266 L	EA	2

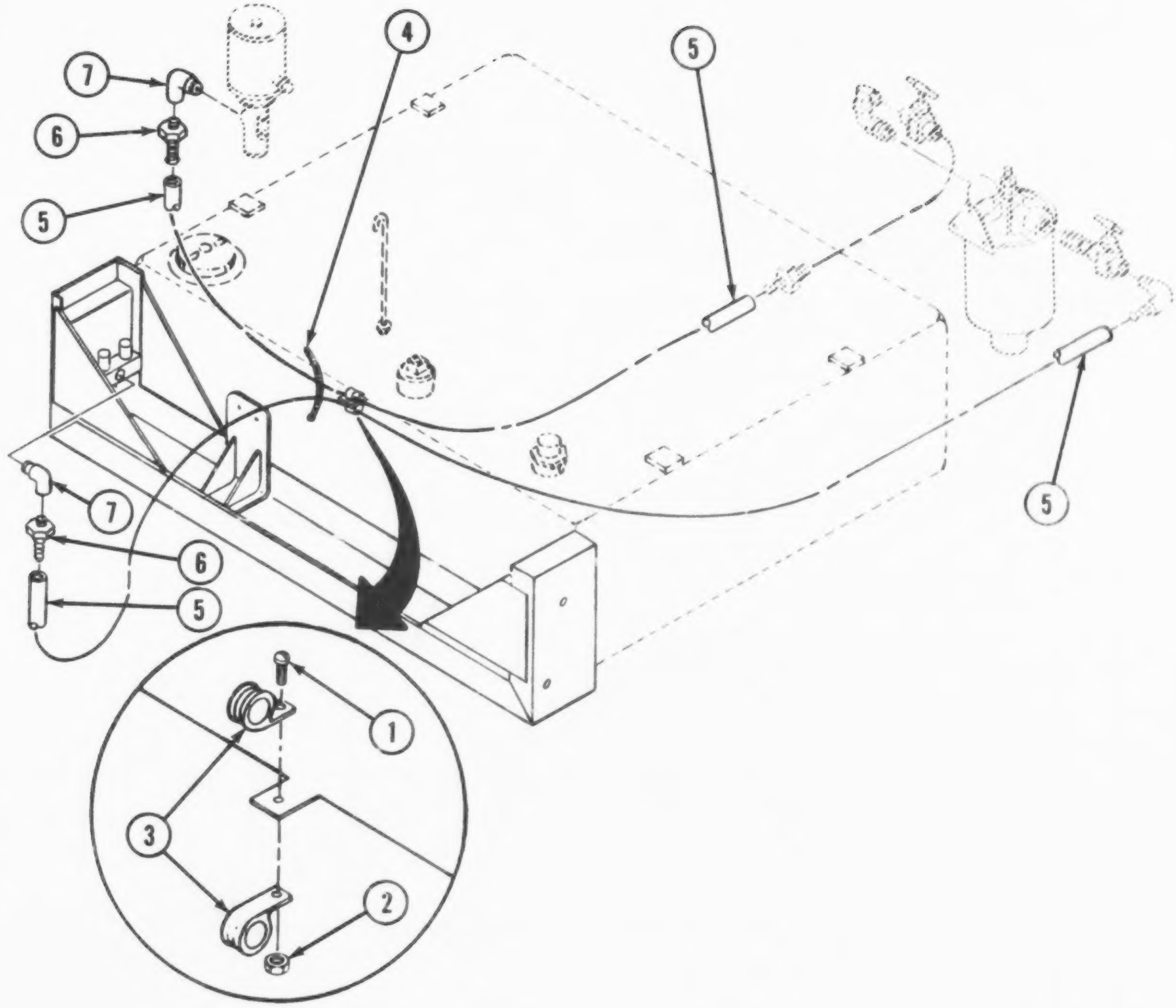

7
6
5
4
5
5
7
6
5
1
3
2

Figure C-10. Internal Fuel Lines and Fittings (Sheet 1 of 2)

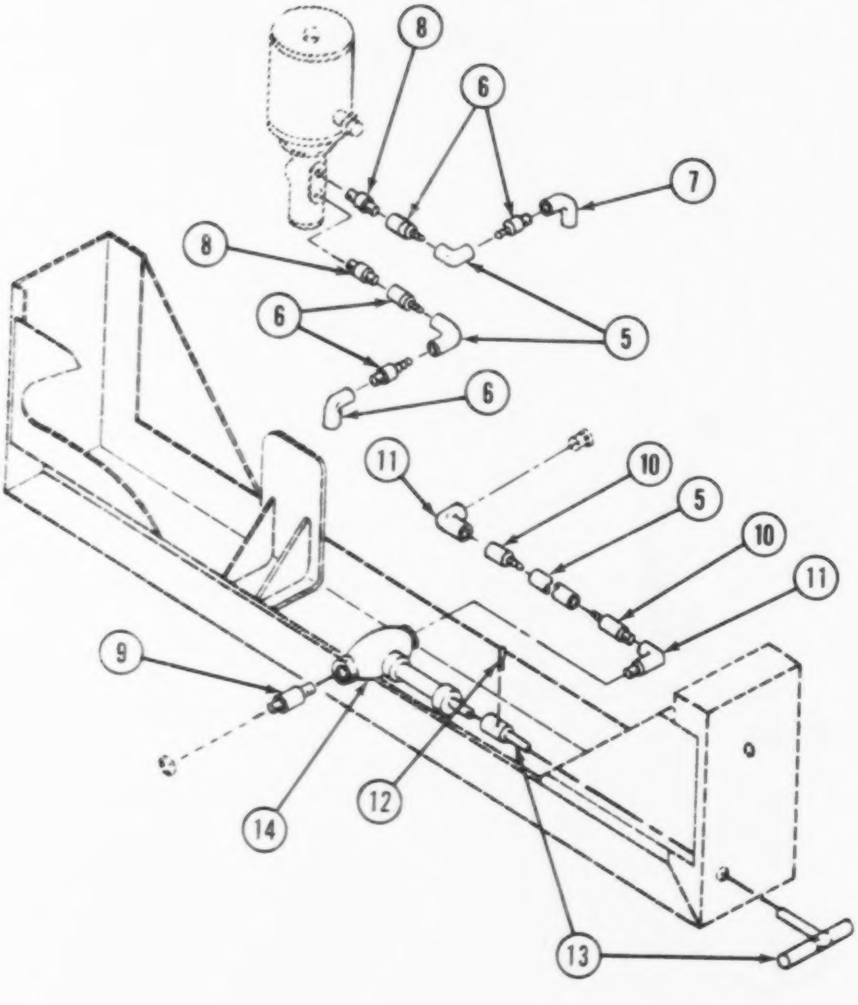

8
6
7
8
6
5
6
6
11
10
5
10
11
9
14
12
13

Figure C-10. Internal Fuel Lines and Fittings (Sheet 2 of 2)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 0508 - INTERNAL FUEL LINES AND FITTINGS		
C-10	1	PAOZZ	5305-00-984-6212	96906	MS35206-265	Screw, Machine, Pan Head, Cross-Recessed, CS, CD PLD, UNC-2A, No. 10-24 x .750 L	EA	1
C-10	2	PAOZZ	5310-00-689-3877	96906	MS17829-3C	Nut, Self-Locking, Hex, .250°F, Nonmetallic Insert, Noncorrosion-Resistant Steel, No. 10-24, UNC-3B, CD PLD	EA	1
C-10	3	PAOZZ	5340-01-099-2296	96906	MS21919WCG10	Clamp, Loop-Type, Cushioned, Support, Aircraft, .625 ID CRES, PSVT	EA	2
C-10	4	PAOZZ	5975-00-111-3208	96906	MS3367-5-9	Strap, Tiedown	HD	V
C-10	5	PAOZZ		81349	MIL-H-13444	Hose and Hose Assembly, Hose, Flexible Fuel, .750 ID, TYPE I	IN	V
C-10	6	PAOZZ	4730-01-137-3099	97403	13222E7029-2	Fitting, Socketless, 37°(JIC) Swivel	EA	6
C-10	7	PAOZZ	4730-00-959-4912	96906	MS51504A6-6S	Elbow, Pipe to Tube, 90° Male Pipe End, 37° Flared, 3/8 Tube x OD 3/8 NPTF x 9/16-18, UNF-2A, CRES, PSVT	EA	4
C-10	8	PAOZZ	4730-00-995-1559	96906	MS51500B6	Adapter, Straight, Pipe to Tube, Male Pipe End, 37° Flared, 3/8 Tube x OD 1/4 NPTF x 9/16-18, UNF-2A, CS, CD PLD	EA	2
C-10	9	PAFZZ		81343	12-12-140137	Nipple, Pipe, 3/4-14 MPT x 2.346 L, SAE-J514	EA	1
C-10	10	PAOZZ	4730-01-137-3097	97403	13222E7029-5	Fitting, Socketless, 37°(JIC) Swivel	EA	2
C-10	11	PAOZZ	4730-00-322-8014	96906	MS51504B12S	Elbow, Pipe To Tube, 90° Male Pipe End, 37° Flared	EA	2
C-10	12	PAFZZ	5315-00-234-1864	96906	MS24665-302	Pin, Cotter (Split), 3/32 NOM DIA x 1 L, CRES, PSVT	EA	1

(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
C-10	13	PBFZZ	6115-01-134-7287	97403	13220E0721	Handle, Tee	EA	1
C-10	14	PBFZZ	4820-01-121-0781	97403	13220E0680	Valve, Gate	EA	1

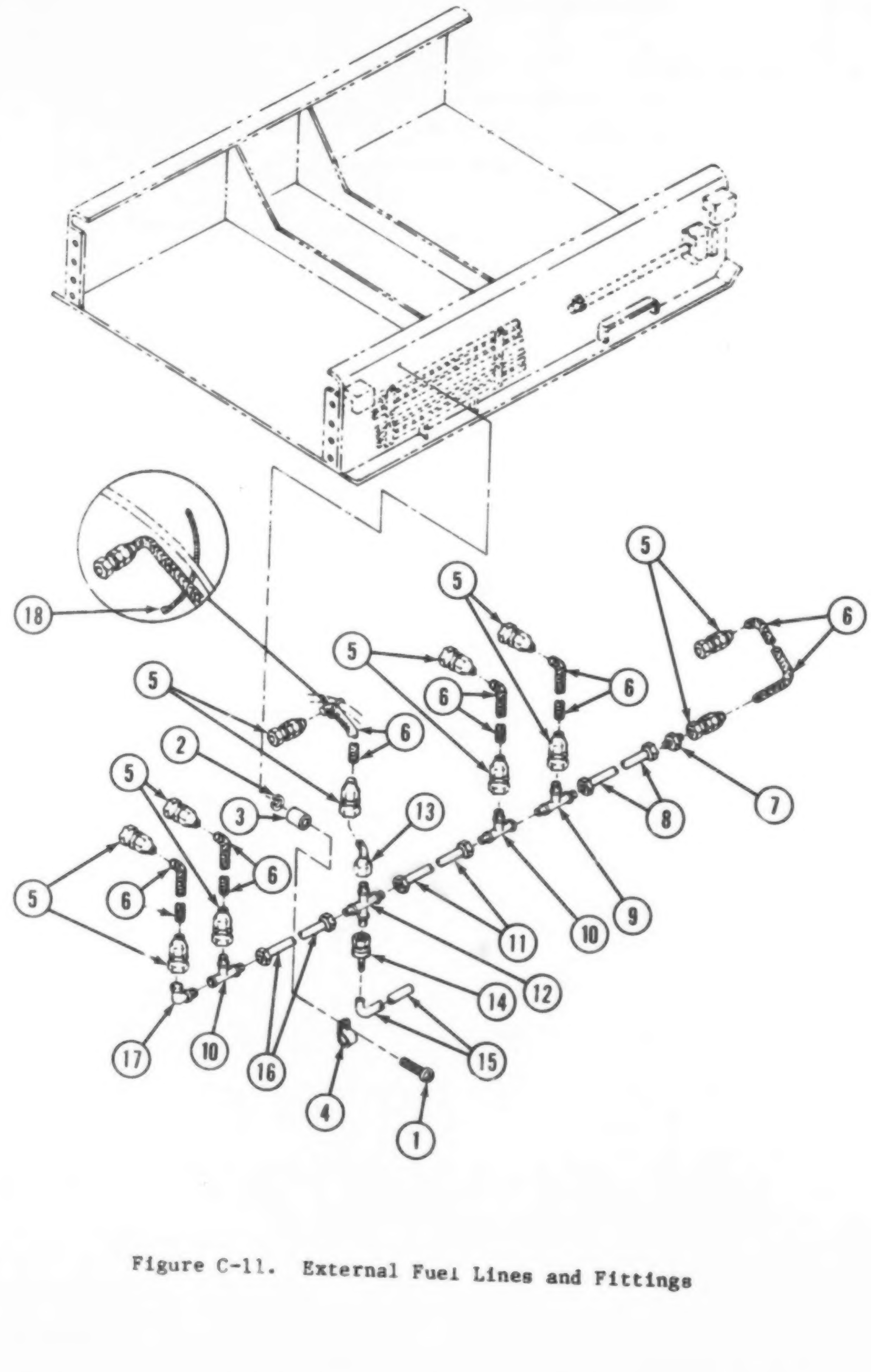

18
5
6
5
6
5
6
5
6
2
3
13
5
6
5
6
5
6
7
8
9
10
11
12
14
15
16
17
10
4
1

Figure C-11. External Fuel Lines and Fittings

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 0509 - EXTERNAL FUEL LINES AND FITTINGS		
C-11	1	PAOZZ	5305-00-984-6211	96906	MS35206-264	Screw, Machine, Pan Head, Cross-Recessed, CD PLD, UNC-2A, No. 10-24 x .625 L	EA	5
C-11	2	PAFZZ	5310-00-045-3296	96906	MS35338-43	Washer, Lock-Spring, Helical, Regular (Medium) Series, .312 NOM Size, CS, CD PLD	EA	5
C-11	3	PAFZZ	5365-01-135-3448	97403	13221E9301-1	Spacer	EA	5
C-11	4	PAFZZ	5340-01-148-3722	96906	MS21919WCG6	Clamp, Loop-Type, Cushioned, Support, .375 ID, CRES, PSVT	EA	5
C-11	5	PAFZZ	4730-00-066-0735	01276	63-190600-6	Fitting, 37° Swivel	EA	12
C-11	6	PAFZZ	4720-00-406-3309	01276	2807-6	Hose, Extruded Teflon	IN	V
C-11	7	PAFZZ		81343	6-6-070101	Fitting, Hydraulic Tube, SAE-J514	EA	1
C-11	8	PAFZZ		97403	13220E0743-2	Tube, 17.50 in. L	EA	1
C-11	9	PAFZZ	4730-00-995-1579	96906	MS51511B6	Tee, Pipe To Tube, Male Pipe on Run, 37° Flared, 3/8 OD x 1/4 NPTF x 9/16-18, UNF-2A, CS, CD PLD	EA	1
C-11	10	PAFZZ		13174	857-FS-06X06X04	Tee, Pipe To Tube, Female Pipe on Run, 37° Flared, 3/8 OD x 1/4 NPTF x 9/16-18, UNF-2A, CS, CD PLD	EA	2
C-11	11	PAFZZ	4710-01-130-3243	97403	13220E0743-3	Tube, 20-75 in. L	EA	1
C-11	12	PAFZZ	4730-01-134-7293	01276	2020-6-6S	Crosstube, 37° Flared, 3/8 Tube OD x 9/16-18, UNF-2A, CS, CD PLD	EA	1
C-11	13	PAOZZ		81343	6-6-070321	Hydraulic Tube Fitting, Swivel Elbow, SAE-J514	EA	1
C-11	14	PAFZZ	4730-01-137-3099	97403	13222E7029-2	Fitting, Socketless, 37° (JIC) Swivel	EA	1
C-11	15	PAFZZ		81349	MIL-H-13444	Hose and Hose Assembly, Hose, Flexible Fuel, .750 ID, TYPE I	IN	V

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	USABLE ON CODE	U/M	QTY INC IN UNIT
C-11	16	PAFZZ	4710-01-130-3242	97403	13220E0743-1	Tube, 30.75 in. L	EA	1
C-11	17	PAFZZ	4730-00-812-7999	96906	MS51504A6	Elbow, Pipe To Tube, 90° Male Pipe End, 37° Flared, 3/8 Tube OD x 1/4 NPTF x 9/16-18, UNF-2A, CS, CD PLD	EA	1
C-11	18	PAFZZ	5975-00-451-5001	96906	MS3367-3-9	Strap, Tiedown, Electrical Components, Adj, Self-Clinching, Plastic, Type I, Class I	HD	V

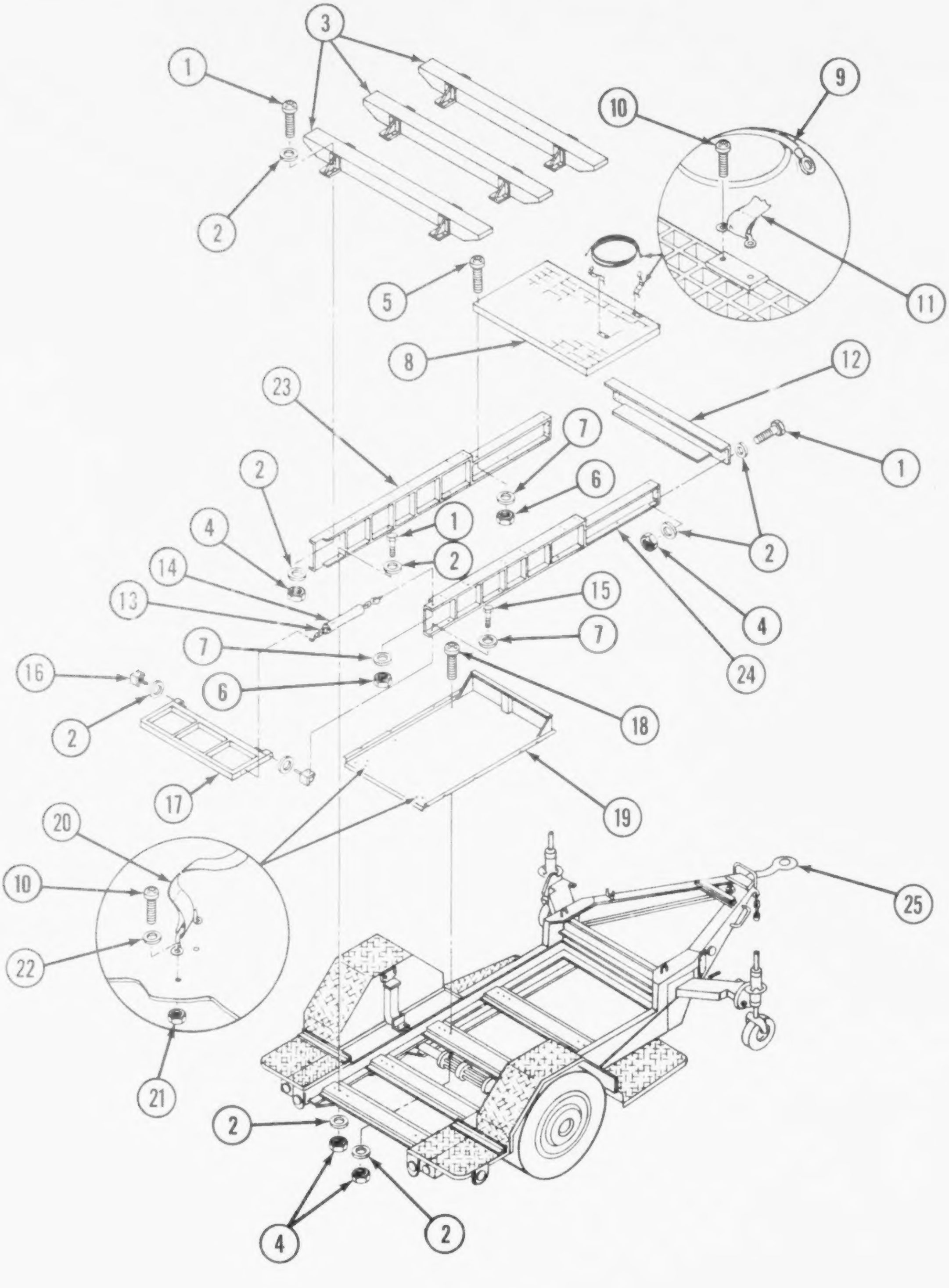

3
1
9
10
2
5
11
8
12
23
7
1
6
2
1
4
2
2
14
13
15
4
7
7
24
16
6
18
2
17
19
20
10
25
22
21
2
4
2

Figure C-12. Trailer Assembly (Sheet 1 of 3)

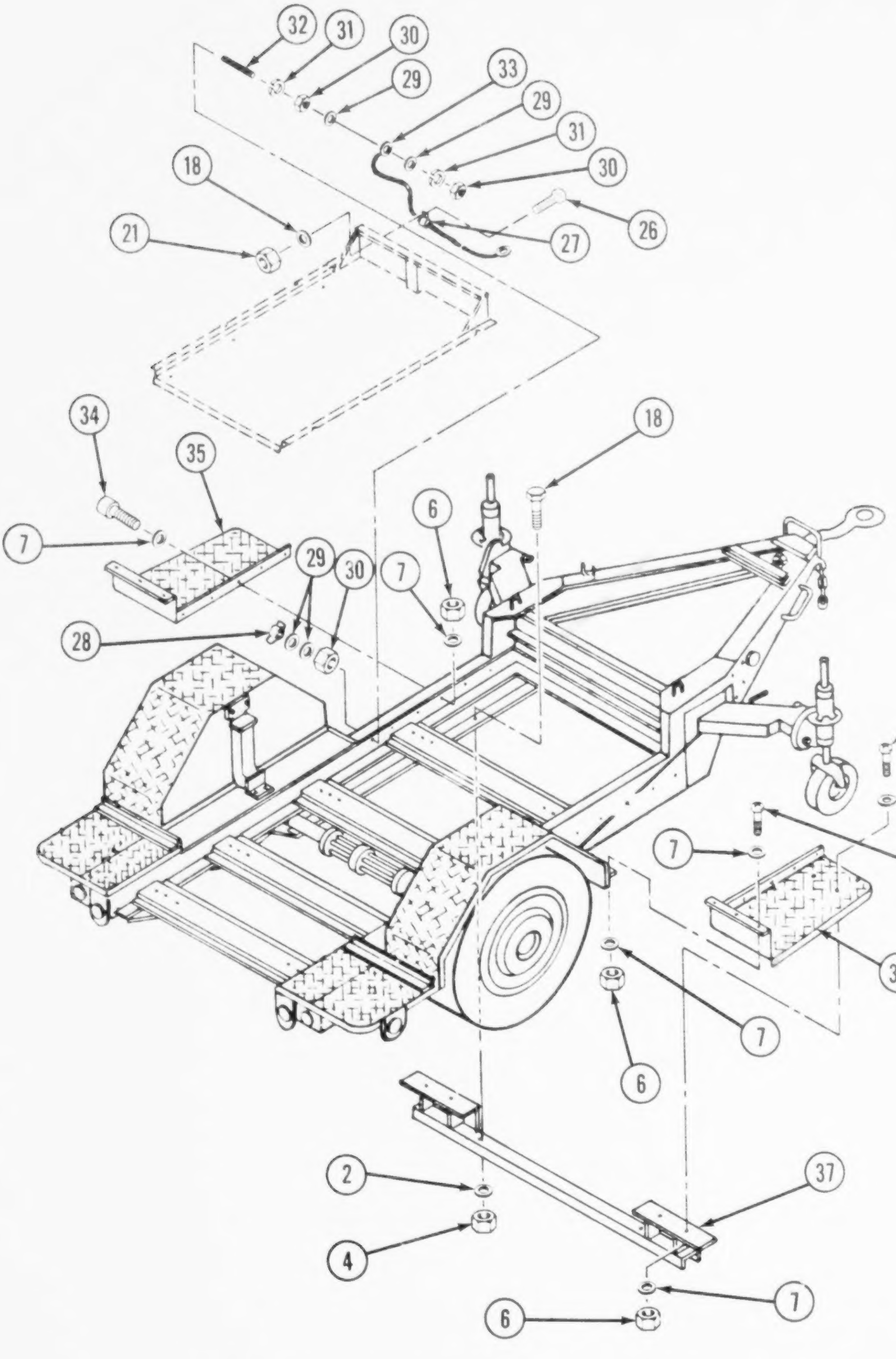

32
31
30
29
33
29
31
30
18
21
26
27
34
35
18
6
7
7
29
30
28
34
7
7
15
36
7
6
2
37
4
7
6

Figure C-12. Trailer Assembly (Sheet 2 of 3)

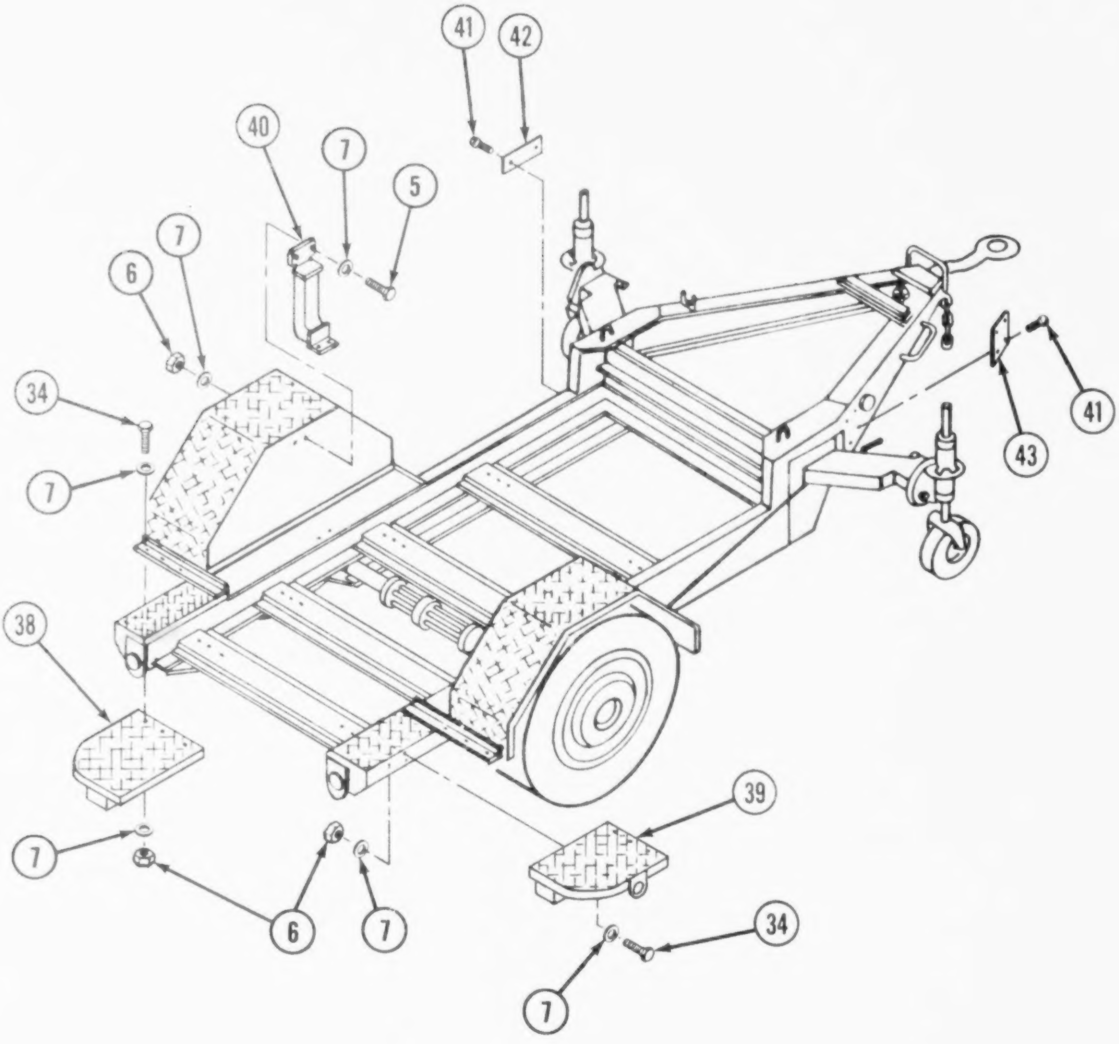

41
42
40
7
5
7
6
34
7
43
41
38
39
7
6
7
34
7

Figure C-12. Trailer Assembly (Sheet 3 of 3)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8) QTY INC IN UNIT
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	USABLE ON CODE	U/M	
						GROUP 06: M353 (MODIFIED) TRAILER 13220E0753		
C-12	1	PAOZZ	5305-00-071-2070	96906	MS90725-114	Screw, Cap, Hex Head, Steel, Grade 5, CD PLD, UNC-2A, 1/2 - 13 x 1.750 L	EA	48
C-12	2	PAOZZ	5310-00-809-5998	96906	MS27183-18	Washer, Flat, Round, Steel, General Purpose, CD PLD, .531 ID x 1.062 OD x .095 THK BSC	EA	108
C-12	3	XBOZZ		97403	13222E9725	Support, Tube, Center	EA	3
C-12	4	PAOZZ	5310-00-225-6993	96906	MS51922-33	Nut, Self-Locking, Hex, Prevailing Torque, 250° F, 1/2 - 13 UNC-2B, CS, CD PLD	EA	56
C-12	5	PAOZZ	5305-00-269-3214	96906	MS90725-64	Screw, Cap, Hex Head, Steel, Grade 5, CD PLD, UNC-2A, 3/8 - 16 x 1.500 L	EA	12
C-12	6	PAOZZ	5310-00-087-4652	96906	MS51922-17	Nut, Self-Locking, Hex, Prevailing Torque, General Purpose, 250°F, 3/8 - 16, UNC-2B, CS, CD PLD	EA	42
C-12	7	PAOZZ	5310-00-080-6004	96906	MS27183-14	Washer, Flat, Round, Steel, CD PLD, .406 ID x .812 OD x .065 THK BSC	EA	84
C-12	8	XDOZZ		97403	13220E0706	Walkway, Grating	EA	1
C-12	9	MFOFF		97403	13220E0697-3	Wire Assembly, Ground	EA	1
						Make From:		
C-12		PAFZZ		81349	HW-C6(127)J0	.Wire, Electrical	FT	V
C-12		PAFZZ	5940-00-113-8190	96906	MS25036-122	.Terminal, Lug	EA	1
C-12	10	PAOZZ	5305-00-984-7342	96906	MS35191-274	Screw, Machine, 82° Flat, Countersunk Head, Cross-Recessed, CS, CD PLD, UNF-2A, .190 - 32 x .750 L	EA	8
C-12	11	PAOZZ		97403	13220E0670-10	Strap Assembly	EA	2
C-12	12	XBOZZ		97403	13222E9717	Brace, Front Channel	EA	1
C-12	13	XDOZZ		97403	13222E9730	Hook and Chain Assembly	EA	2

(1) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
C-12	14	PAOZZ		97403	13226E1867-4	.Sleeve, Chain	EA	2
C-12	15	PAOZZ	5305-00-269-3213	96906	MS90725-62	Screw, Cap, Hex Head, Steel, Grade 5, CD PLD, UNC-2A, 3/8 - 16 x 1.250 L	EA	6
C-12	16	XDOZZ	5340-01-135-3449	97403	13222E9729	Hinge Pin Assembly	EA	2
C-12	17	XDOZZ		97403	13222E9728	Tailgate Assembly	EA	1
C-12	18	PAOZZ	5305-00-782-9495	96906	MS90725-111	Screw, Cap, Hex Head, Steel, CD PLD, UNC-2A, 1/2 - 13 x 1.250 L	EA	8
C-12	19	XDOZZ		97403	13220E0703	Tray, Storage	EA	1
C-12	20	PAOZZ		97403	13220E0670-5	Strap Assembly	EA	2
C-12	21	PAOZZ	5310-00-877-5797	96906	MS21044N3	Nut, Self-Locking, Hex, 250°F, 125 KSI FTU And 60 KSI FTU, .1900-32 UNJF-3B	EA	7
C-12	22	PAOZZ	5310-00-014-5850	96906	MS27183-42	Washer, Flat, Round, Steel, CD PLD, .219 ID x .500 OD x .049 THK BSC	EA	7
C-12	23	XDOZZ		97403	13222E9724	Support, LH	EA	1
C-12	24	XDOZZ		97403	13222E9731	Support, RH	EA	1
C-12	25	XAHZZ		97403	13220E0754	Chassis	EA	1
C-12	26	PAOZZ	5305-00-989-7435	96906	MS35207-264	Screw, Machine, Pan Head, Cross-Recessed, CS, CD PLD, UNF-2A, No. 10-32 x .625 L	EA	3
C-12	27	PAOZZ	5340-01-148-3722	96906	MS21919WCG6	Clamp, Loop-Type, Cushioned, Support, .375 ID x .497 WD, CRES	EA	3
C-12	28	PAOZZ	5310-01-078-5996	96906	MS35425-75	Nut, Plain, Wing, UNC-2B, .375-16 BRS	EA	1
C-12	29	PAOZZ	5310-00-187-2413	88044	AN961-616T	Washer, Flat, Electrical, 3/8 Size x .064 THK, BRS, Tin PLD	EA	4
C-12	30	PAOZZ	5310-00-584-7995	96906	MS16203-27	Nut, Plain, Hex and Hex Jam, UNC-2B, 3/8 NOM Size x .337 Max THKNS, COP-Silicon ALY	HD	3

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8) QTY INC IN UNIT
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	USABLE ON CODE	U/M	
C-12	31	PAOZZ	5310-00-022-8847	96906	MS35333-110	Washer, Lock, Flat, Internal Tooth, 3/8 NOM Size, Tin-BRS Or PH BRZ, UNCTD	HD	2
C-12	32	PAOZZ	5307-00-045-8172	82181	59A0358-1	Stud	EA	1
C-12	33	MFOFF		97403	13220E0669-4	Wire Assembly, Ground	EA	1
						Make From:		
C-12		PAFZZ		81349	HW-C6(127)JO	.Wire, Electrical	FT	V
C-12		PAFZZ	5940-00-113-8190	96906	MS25036-122	.Terminal, Lug	EA	2
C-12	34	PAOZZ	5305-00-269-3211	96906	MS90725-60	Screw, Cap, Hex Head, Steel, Grade 5, CD PLD, UNC-2A, 3/8 - 16 x 1.000 L	EA	24
C-12	35	XBOFF		97403	13221E4791	Step, Front Roadside	EA	1
C-12	36	XBOFF		97403	13221E4790	Step, Front Curbside	EA	1
C-12	37	XBOFF		97403	13222E9718	Support	EA	1
C-12	38	XBOFF		97403	13221E4794	Step, Rear Roadside	EA	1
C-12	39	XBOFF		97403	13221E4793	Step, Rear Curbside	EA	1
C-12	40	XBOZZ		97403	13222E9716	Bracket, Fender	EA	2
C-12	41	PAOZZ	5305-00-253-5612	96906	MS21318-15	Screw, Drive, Round Head, TYPE U, CS, CD PLD, No. 2-8 x 1/4 L	EA	4
C-12	42	XDOZZ		97403	13217E2005	Plate, Identification	EA	1
C-12	43	XDOZZ		97403	13226E2158	Plate, Identification	EA	1

(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 9998 - BULK MATERIAL		
BULK			4720-00-406-3309	01276	2807-6	Hose, Extruded, Teflon	IN	V
BULK			5970-00-812-2967	81349	M23053/5-108-0	Insulation Sleeving	FT	V
BULK			5970-00-812-2969	81349	M23053/5-104-0	Insulation Sleeving	FT	V
BULK			5970-00-815-1295	81349	M23053/5-106-0	Insulation Sleeving	FT	V
BULK			5970-00-815-1300	81349	M23053/5-110-0	Insulation Sleeving	FT	V
BULK			5970-00-834-9119	81349	M23053/5 112-9	Insulation Sleeving	FT	V
BULK			5970-00-914-3118	81349	M23053/5 109-0	Insulation Sleeving	FT	V
BULK			5970-00-954-1622	81349	M23053/5 105-0	Insulation Sleeving	FT	V
BULK			5970-00-954-1624	81349	M23053/5 107-0	Insulation Sleeving	FT	V
BULK			5970-01-109-3903	81349	M23053/16 001-0	Insulation Sleeving	FT	V
BULK			5975-00-111-3208	96906	MS3367-5-9	Strap, Tiedown	HD	V
BULK			5975-00-451-5001	96906	MS3367-3-9	Strap, Tiedown	HD	V
BULK			5975-00-727-5153	96906	MS3367-4-9	Strap, Tiedown	HD	V
BULK			6145-00-548-2403	81349	MW-C16(19)JO	Wire, Electrical	FT	V
BULK			6145-01-129-6897	90484	DDC 04A ABK	Cable, Power	FT	V
BULK			6145-01-131-2752	90484	DDC 02A AGZ	Cable, Power	FT	V
BULK			6145-01-135-5951	90484	AAC 08A BAC	Cable, Power	FT	V
BULK			6145-01-140-9821	81349	M16878/4BHE9	Wire, Electrical	FT	V
BULK			9505-00-293-4208	96906	MS20995C32	Wire, Safety	FT	V
BULK				81349	HW-C6(127)JO	Wire, Electrical	FT	V
BULK				18876	MIS-20076/1-005	Cable	FT	V
BULK				81349	M13486/1-14	Wire, Electrical	FT	V

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	USABLE ON CODE	U/M	QTY INC IN UNIT
BULK				81349	M16878/8BJE9	Wire, Electrical	FT	V
BULK				81349	M16878/8BPL9	Wire, Electrical	FT	V
BULK				81349	M16878/8BTM9	Wire, Electrical	FT	V
BULK				81349	M16878/8BUM9	Wire, Electrical	FT	V
BULK				01276	2807-5	Hose, Extruded Teflon	IN	V
BULK				07700	43-00256	Strip, Sealing, Shielding	FT	V
BULK				07700	43-00263	Strip, Sealing, Shielding	FT	V

Section III. SPECIAL TOOLS LIST

(Not Applicable)

Section IV. NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIGURE NO.	ITEM NO.	STOCK NUMBER	FIGURE NO.	ITEM NO.
2590-00-932-7298	C-4	19	5305-00-253-5612	C-3	18
2910-00-163-5752	C-6	5	5305-00-253-5612	C-4	8
2910-00-459-8447	C-5	2	5305-00-253-5612	C-12	41
4710-01-130-3242	C-11	16	5305-00-269-2807	C-6	1
4710-01-130-3243	C-11	11	5305-00-269-3211	C-8	1
4710-01-134-7298	C-5	8	5305-00-269-3211	C-12	34
4720-00-406-3309	C-11	7	5305-00-269-3213	C-12	15
4730-00-057-5555	C-5	12	5305-00-269-3214	C-12	5
4730-00-057-5555	C-9	7	5305-00-782-9495	C-1	1
4730-00-066-0735	C-11	5	5305-00-782-9495	C-12	18
4730-00-088-8908	C-5	9	5305-00-922-7994	C-4	25
4730-00-088-8908	C-10	8	5305-00-984-6208	C-2	22
4730-00-186-7785	C-5	15	5305-00-984-6208	C-3	1
4730-00-314-1738	C-7	8	5305-00-984-6210	C-2	13
4730-00-322-8014	C-10	11	5305-00-984-6211	C-2	16
4730-00-805-5098	C-9	3	5305-00-984-6211	C-11	1
4730-00-812-7999	C-11	17	5305-00-984-6212	C-10	1
4730-00-959-4912	C-10	7	5305-00-984-7342	C-12	10
4730-00-995-1579	C-11	9	5305-00-988-1724	C-4	14
4730-01-134-7293	C-11	12	5305-00-989-7435	C-12	26
4730-01-137-3093	C-9	11	5306-00-151-0776	C-9	8
4730-01-137-3094	C-7	2	5306-00-225-8496	C-3	8
4730-01-137-3097	C-10	10	5306-00-225-8497	C-4	4
4730-01-137-3098	C-7	7	5306-00-225-8499	C-4	1
4730-01-137-3099	C-7	1	5306-00-864-5939	C-4	22
4730-01-137-3099	C-10	6	5307-00-045-8172	C-12	32
4730-01-137-3099	C-11	14	5307-00-227-1741	C-3	53
4730-01-137-3100	C-9	6	5307-00-901-4462	C-9	14
4730-01-137-3168	C-7	4	5307-01-134-7295	C-2	12
4730-01-137-3169	C-7	5	5310-00-014-5850	C-2	26
4730-01-137-3170	C-7	8	5310-00-014-5850	C-9	10
4730-01-137-5485	C-7	6	5310-00-014-5850	C-12	22
4810-01-130-3223	C-8	3	5310-00-019-0672	C-2	15
4820-00-202-5939	C-9	5	5310-00-022-8847	C-2	6
4820-01-121-0781	C-10	14	5310-00-022-8847	C-3	52
4820-01-137-3095	C-7	3	5310-00-022-8847	C-12	31
4930-00-477-8276	C-6	4	5310-00-045-3296	C-2	23
5305-00-044-4153	C-1	4	5310-00-045-3296	C-3	2
5305-00-044-4153	C-4	28	5310-00-045-3296	C-11	2
5305-00-050-9229	C-5	3	5310-00-054-6655	C-3	27
5305-00-054-5651	C-2	44	5310-00-067-6356	C-4	26
5305-00-054-5652	C-3	54	5310-00-080-6004	C-3	10
5305-00-054-6656	C-2	28	5310-00-080-6004	C-6	2
5305-00-059-3658	C-3	20	5310-00-080-6004	C-12	7
5305-00-059-3660	C-3	45	5310-00-081-4219	C-4	5
5305-00-071-2070	C-12	1	5310-00-083-7092	C-2	42

NATIONAL STOCK NUMBER AND PART NUMBER INDEX (CONT)

NATIONAL STOCK NUMBER INDEX (CONT)

STOCK NUMBER	FIGURE NO.	ITEM NO.	STOCK NUMBER	FIGURE NO.	ITEM NO.
5310-00-087-4652	C-8	2	5310-01-078-5996	C-3	49
5310-00-087-4652	C-12	6	5310-01-078-5996	C-12	28
5310-00-136-1471	C-2	14	5315-00-234-1864	C-10	12
5310-00-138-4309	C-2	40	5325-00-584-6638	C-3	15
5310-00-138-4315	C-3	40	5330-00-804-5695	C-9	4
5310-00-187-2413	C-2	2	5330-01-137-3172	C-5	7
5310-00-187-2413	C-3	50	5340-00-291-5338	C-3	4
5310-00-187-2413	C-12	29	5340-00-914-2578	C-4	17
5310-00-225-6993	C-12	4	5340-00-999-6277	C-4	12
5310-00-261-8278	C-2	41	5340-01-099-2296	C-2	24
5310-00-337-8329	C-3	13	5340-01-099-2296	C-10	3
5310-00-407-9566	C-3	9	5340-01-135-3449	C-12	16
5310-00-407-9566	C-4	2	5340-01-140-5473	C-5	13
5310-00-407-9566	C-11	2	5340-01-146-7422	C-2	18
5310-00-410-3032	C-3	51	5340-01-148-3722	C-11	4
5310-00-582-5965	C-4	15	5340-01-148-3722	C-12	27
5310-00-584-5272	C-1	2	5365-00-723-4264	C-3	26
5310-00-584-7995	C-12	30	5365-01-135-3448	C-11	3
5310-00-595-6211	C-2	47	5935-00-060-2286	C-3	42
5310-00-619-1148	C-5	5	5935-00-060-2294	C-3	46
5310-00-689-3877	C-2	17	5935-00-725-4638	C-2	20
5310-00-689-3877	C-9	12	5935-00-813-4717	C-2	19
5310-00-689-3877	C-10	2	5935-00-813-4717	C-2	21
5310-00-809-4058	C-4	20	5935-01-042-7579	C-2	54
5310-00-809-5998	C-1	5	5935-01-042-7579	C-3	35
5310-00-809-5998	C-12	2	5935-01-136-9896	C-3	5
5310-00-809-8536	C-4	23	5935-01-137-3101	C-3	5
5310-00-877-5797	C-9	9	5940-00-113-8190	C-2	3
5310-00-877-5797	C-12	21	5940-00-113-8190	C-2	4
5310-00-880-5976	C-2	30	5940-00-113-8190	C-2	9
5310-00-901-0279	C-3	17	5940-00-113-8190	C-2	11
5310-00-929-6395	C-2	29	5940-00-113-8190	C-3	47
5310-00-929-6395	C-3	28	5940-00-113-8190	C-3	67
5310-00-933-8118	C-2	46	5940-00-113-8190	C-3	69
5310-00-933-8118	C-3	56	5940-00-113-8190	C-12	9
5310-00-933-8120	C-3	21	5940-00-115-5007	C-3	47
5310-00-933-8120	C-5	4	5940-00-115-5007	C-3	67
5310-00-934-9748	C-2	45	5940-00-115-5007	C-3	69
5310-00-934-9748	C-3	55	5940-00-143-4771	C-2	43
5310-00-934-9761	C-2	33	5940-00-143-4773	C-3	32
5310-00-934-9761	C-3	41	5940-00-143-4780	C-2	7
5310-00-934-9765	C-3	24	5940-00-143-4780	C-2	8
5310-00-950-0039	C-6	3	5940-00-143-4780	C-2	10
5310-01-026-5824	C-2	5	5940-00-143-4793	C-2	7
5310-01-064-8787	C-4	21	5940-00-143-4793	C-2	8
5310-01-078-5996	C-2	1	5940-00-143-4793	C-2	10

NATIONAL STOCK NUMBER AND PART NUMBER INDEX (CONT)

NATIONAL STOCK NUMBER INDEX (CONT)

STOCK NUMBER	FIGURE NO.	ITEM NO.
5940-00-147-2972	C-2	36
5940-00-147-2972	C-3	31
5940-00-159-1290	C-3	38
5940-00-204-8966	C-2	43
5940-00-204-8966	C-2	49
5940-00-204-8966	C-2	50
5940-00-204-8966	C-2	51
5940-00-204-8966	C-2	52
5940-00-204-8966	C-2	57
5940-00-204-8966	C-3	32
5940-00-204-8966	C-3	43
5940-00-204-8966	C-3	57
5940-00-557-1629	C-3	32
5940-00-680-4374	C-3	3
5940-00-681-8185	C-2	37
5940-00-681-8185	C-2	38
5940-00-983-6051	C-2	34
5940-00-983-6053	C-3	33
5940-00-983-6059	C-3	29
5940-01-149-9012	C-3	23
5945-00-435-1833	C-2	53
5945-00-435-1833	C-3	36
5970-00-812-2967	BULK	
5970-00-812-2967	C-3	32
5970-00-812-2967	C-3	43
5970-00-812-2967	C-3	47
5970-00-812-2967	C-3	67
5970-00-812-2967	C-3	69
5970-00-812-2969	BULK	
5970-00-812-2969	C-2	49
5970-00-812-2969	C-2	50
5970-00-812-2969	C-2	51
5970-00-812-2969	C-2	52
5970-00-812-2969	C-3	43
5970-00-815-1295	BULK	
5970-00-815-1295	C-2	20
5970-00-815-1295	C-3	57
5970-00-815-1300	BULK	
5970-00-815-1300	C-3	23
5970-00-834-9119	BULK	
5970-00-834-9119	C-3	5
5970-00-834-9119	C-3	67
5970-00-834-9119	C-3	69
5970-00-914-3118	BULK	
5970-00-914-3118	C-1	6
5970-00-914-3118	C-3	67
5970-00-914-3118	C-3	69

STOCK NUMBER	FIGURE NO.	ITEM NO.
5970-00-954-1622	BULK	
5970-00-954-1622	C-3	47
5970-00-954-1622	C-3	57
5970-00-954-1624	BULK	
5970-00-954-1624	C-2	19
5970-00-954-1624	C-2	21
5970-00-954-1624	C-2	49
5970-00-954-1624	C-2	50
5970-00-954-1624	C-2	51
5970-00-954-1624	C-2	52
5970-01-109-3903	BULK	
5970-01-109-3903	C-2	37
5970-01-109-3903	C-2	38
5975-00-111-3208	BULK	
5975-00-111-3208	BULK	
5975-00-111-3208	C-10	4
5975-00-296-5324	C-4	18
5975-00-451-5001	BULK	
5975-00-451-5001	C-2	60
5975-00-451-5001	C-11	18
5975-00-642-7263	C-3	68
5975-00-714-8031	C-3	59
5975-00-727-5153	BULK	
5975-00-727-5153	C-2	49
5975-00-727-5153	C-2	50
5975-00-727-5153	C-2	51
5975-00-727-5153	C-2	52
5975-00-727-5153	C-2	56
5975-00-727-5153	C-3	57
6115-01-078-3044	C-1	3
6115-01-130-6642	C-2	59
6115-01-130-7252	C-3	5
6115-01-134-7287	C-10	13
6115-01-137-3096	C-4	7
6145-00-548-2403	BULK	
6145-00-548-2403	C-2	7
6145-00-548-2403	C-2	8
6145-00-548-2403	C-2	10
6145-01-129-6897	BULK	
6145-01-129-6897	C-2	19
6145-01-129-6897	C-2	21
6145-01-131-2752	BULK	
6145-01-131-2752	C-2	20
6145-01-135-5951	BULK	
6145-01-135-5951	C-3	5
6145-01-135-5951	C-3	67
6145-01-135-5951	C-3	69

NATIONAL STOCK NUMBER AND PART NUMBER INDEX (CONT)

NATIONAL STOCK NUMBER INDEX (CONT)

STOCK NUMBER	FIGURE NO.	ITEM NO.
6145-01-140-9821	BULK	
6145-01-140-9821	C-2	43
6145-01-140-9821	C-2	49
6145-01-140-9821	C-2	50
6145-01-140-9821	C-2	51
6145-01-140-9821	C-2	52
6145-01-140-9821	C-3	32
6145-01-140-9821	C-3	43
6145-01-140-9821	C-3	57
6145-01-143-0040	C-3	5
6680-01-130-3230	C-5	11
6680-01-132-0765	C-5	10
9505-00-293-4208	BULK	
9505-00-293-4208	C-2	59

PART NUMBER INDEX

FSCM	PART NUMBER	STOCK NUMBER	FIGURE NO.	ITEM NO.
90484	AAC 08A BAC	6145-01-135-5951	BULK	
90484	AAC 08A BAC	6145-01-135-5951	C-3	5
90484	AAC 08A BAC	6145-01-135-5951	C-3	67
90484	AAC 08A BAC	6145-01-135-5951	C-3	69
88044	AN3-20A	5306-00-151-0776	C-9	8
88044	AN902B6	5330-00-804-5695	C-9	4
88044	AN911-3D	4730-00-186-7785	C-5	15
88044	AN961-10T	5310-00-136-1471	C-2	14
88044	AN961-616T	5310-00-187-2413	C-2	2
88044	AN961-616T	5310-00-187-2413	C-3	50
88044	AN961-616T	5310-00-187-2413	C-12	29
03743	BL100	5975-00-714-8031	C-3	59
03743	BL200	5975-00-642-7263	C-3	68
90484	DDC 02A AGZ	6145-01-131-2752	BULK	
90484	DDC 02A AGZ	6145-01-131-2752	C-2	20
90484	DDC 04A ABK	6145-01-129-6897	BULK	
90484	DDC 04A ABK	6145-01-129-6897	C-2	19
90484	DDC 04A ABK	6145-01-129-6897	C-2	21
15235	CGFJ311-SG		C-3	60
15235	CGFJ624-SG		C-3	64
81349	D38999/20FD5PN		C-2	49
81349	D38999/20FD5SN		C-2	50
81349	D38999/20FD5SN		C-2	51
81349	D38999/20FD5SN		C-2	52
81349	D38999/20FD5SN		C-3	57
81349	D38999/26FD5PN		C-2	19
81349	D38999/26FD5PN		C-2	20
81349	D38999/26FD5PN		C-2	21
46384	FHS-024-10	5307-00-901-4462	C-9	14
33457	FS1201	2910-00-163-5752	C-6	5
81348	GGG-H-86		C-4	13
91663	HRCL-6JV2	5935-01-042-7579	C-2	54
91663	HRCL-6JV2	5935-01-042-7579	C-3	35
81349	HW-C6(127)JO		BULK	
81349	HW-C6(127)JO		C-2	3
81349	HW-C6(127)JO		C-2	4
81349	HW-C6(127)JO		C-2	9
81349	HW-C6(127)JO		C-2	11
81349	HW-C6(127)JO		C-12	9
81349	HW-C6(127)JO		C-12	33
04034	LS-50705	6680-01-132-0765	C-5	10
55820	MEP404B	6115-01-078-3044	C-1	3
81349	MIL-H-13444		C-10	5
81349	MIL-H-13444		C-11	15
18876	MIS-20045/1-015		C-3	6
18876	MIS-20045/2-016		C-3	43
18876	MIS-20045/2-019		C-3	47
18876	MIS-20076/1-005		BULK	
18876	MIS-20076/1-005		C-3	6
96906	MS15795-542	5310-00-083-7092	C-2	42
96906	MS15795-803	5310-00-595-6211	C-2	47
96906	MS15795-806	5310-00-880-5976	C-2	30
96906	MS15795-808	5310-00-619-1148	C-5	5
96906	MS16203-27	5310-00-584-7995	C-12	30
96906	MS16203-39	5310-01-026-5824	C-2	5
96906	MS17349C24B	5935-00-060-2286	C-3	42
96906	MS17349C40B	5935-00-060-2294	C-3	46
96906	MS17829-3C	5310-00-689-3877	C-2	17
96906	MS17829-3C	5310-00-689-3877	C-9	12
96906	MS17829-3C	5310-00-689-3877	C-10	2
96906	MS20426A3-5		C-3	16
96906	MS20995C32	9505-00-293-4208	BULK	
96906	MS20995C32	9505-00-293-4208	C-2	59
96906	MS21044N3	5310-00-877-5797	C-9	9
96906	MS21044N3	5310-00-877-5797	C-12	21
96906	MS21044N6	5310-00-950-0039	C-6	3
96906	MS21318-15	5305-00-253-5612	C-3	18
96906	MS21318-15	5305-00-253-5612	C-4	8
96906	MS21318-15	5305-00-253-5612	C-12	41
96906	MS21919WCG4	5340-01-146-7422	C-2	18
96906	MS21919WCG6	5340-01-148-3722	C-11	4
96906	MS21919WCG6	5340-01-148-3722	C-12	27
96906	MS21919WCG10	5340-01-099-2296	C-2	24
96906	MS21919WCG10	5340-01-099-2296	C-10	3
96906	MS21919WCG12	5340-00-291-5338	C-3	4
96906	MS21919WCG27	5940-00-680-4374	C-3	3
96906	MS24399-8	4730-00-805-5098	C-9	3
96906	MS24665-302	5315-00-234-1864	C-10	12
96906	MS25036-102	5940-00-204-8966	C-2	43
96906	MS25036-102	5940-00-204-8966	C-2	49
96906	MS25036-102	5940-00-204-8966	C-2	50
96906	MS25036-102	5940-00-204-8966	C-2	51
96906	MS25036-102	5940-00-204-8966	C-2	52
96906	MS25036-102	5940-00-204-8966	C-2	57
96906	MS25036-102	5940-00-204-8966	C-3	32
96906	MS25036-102	5940-00-204-8966	C-3	43
96906	MS25036-102	5940-00-204-8966	C-3	57
96906	MS25036-103	5940-00-143-4771	C-2	43
96906	MS25036-105	5940-00-143-4773	C-3	32
96906	MS25036-106		C-3	47
96906	MS25036-108	5940-00-143-4780	C-2	7
96906	MS25036-108	5940-00-143-4780	C-2	8
96906	MS25036-108	5940-00-143-4780	C-2	10
96906	MS25036-110	5940-00-143-4793	C-2	7

NATIONAL STOCK NUMBER AND PART NUMBER INDEX (CONT)

PART NUMBER INDEX (CONT)

PSCM	PART NUMBER	STOCK NUMBER	FIGURE NO.	ITEM NO.
96906	MS25036-110	5940-00-143-4793	C-2	8
96906	MS25036-110	5940-00-143-4793	C-2	10
96906	MS25036-122	5940-00-113-8190	C-2	3
96906	MS25036-122	5940-00-113-8190	C-2	4
96906	MS25036-122	5940-00-113-8190	C-2	9
96906	MS25036-122	5940-00-113-8190	C-2	11
96906	MS25036-122	5940-00-113-8190	C-3	47
96906	MS25036-122	5940-00-113-8190	C-3	67
96906	MS25036-122	5940-00-113-8190	C-3	69
96906	MS25036-122	5940-00-113-8190	C-12	9
96906	MS25036-122	5940-00-113-8190	C-12	33
96906	MS25036-130	5940-00-115-5007	C-3	47
96906	MS25036-130	5940-00-115-5007	C-3	67
96906	MS25036-130	5940-00-115-5007	C-3	69
96906	MS25036-149	5940-00-557-1629	C-3	32
96906	MS25042-22D		C-2	59
96906	MS27183-10	5310-00-809-4058	C-4	20
96906	MS27183-12	5310-00-081-4219	C-4	5
96906	MS27183-14	5310-00-080-6004	C-3	10
96906	MS27183-14	5310-00-080-6004	C-6	2
96906	MS27183-14	5310-00-080-6004	C-12	7
96906	MS27183-18	5310-00-809-5998	C-1	5
96906	MS27183-18	5310-00-809-5998	C-12	2
96906	MS27183-24	5310-00-809-8536	C-4	23
96906	MS27183-42	5310-00-014-5850	C-2	26
96906	MS27183-42	5310-00-014-5850	C-9	10
96906	MS27183-42	5310-00-014-5850	C-12	22
96906	MS28882A-6	4820-00-202-5939	C-9	5
96906	MS3106R12S-3S	5935-00-725-4638	C-2	20
96906	MS3106R14S-2S	5935-00-813-4717	C-2	19
96906	MS3106R14S-2S	5935-00-813-4717	C-2	21
96906	MS3108R36-5P		C-3	67
96906	MS3108R36-5P		C-3	69
96906	MS3367-3-9	5975-00-451-5001	BULK	
96906	MS3367-3-9	5975-00-451-5001	C-2	60
96906	MS3367-3-9	5975-00-451-5001	C-11	18
96906	MS3367-4-9	5975-00-727-5153	BULK	
96906	MS3367-4-9	5975-00-727-5153	C-2	49
96906	MS3367-4-9	5975-00-727-5153	C-2	50
96906	MS3367-4-9	5975-00-727-5153	C-2	51
96906	MS3367-4-9	5975-00-727-5153	C-2	52
96906	MS3367-4-9	5975-00-727-5153	C-2	56
96906	MS3367-4-9	5975-00-727-5153	C-3	57
96906	MS3367-5-9	5975-00-111-2308	BULK	
96906	MS3367-5-9	5975-00-111-2308	C-3	32
96906	MS3367-5-9	5975-00-111-2308	C-3	43
96906	MS3367-5-9	5975-00-111-3208	C-10	4
96906	MS3368-1-9A		C-2	59
96906	MS35191-274	5305-00-984-7342	C-12	10
96906	MS35206-261	5305-00-984-6208	C-2	22
96906	MS35206-261	5305-00-984-6208	C-3	1
96906	MS35206-263	5305-00-984-6210	C-2	13
96906	MS35206-264	5305-00-984-6211	C-2	16
96906	MS35206-264	5305-00-984-6711	C-11	1
96906	MS35206-265	5305-00-984-6212	C-10	1
96906	MS35206-280	5305-00-988-1724	C-4	14
96906	MS35207-264	5305-00-989-7435	C-12	26
96906	MS35212-60		C-2	39
96906	MS35333-107	5310-00-019-0672	C-2	15
96906	MS35333-110	5310-00-022-8847	C-2	6
96906	MS35333-110	5310-00-022-8847	C-3	52
96906	MS35333-110	5310-00-022-8847	C-12	31
96906	MS35338-100	5310-00-261-8278	C-2	41
96906	MS35338-135	5310-00-933-8118	C-2	46
96906	MS35338-135	5310-00-933-8118	C-3	56
96906	MS35338-136	5310-00-929-6395	C-2	29
96906	MS35338-136	5310-00-929-6395	C-3	28
96906	MS35338-138	5310-00-933-8120	C-3	21
96906	MS35338-138	5310-00-933-8120	C-5	4
96906	MS35338-43	5310-00-045-3296	C-2	23
96906	MS35338-43	5310-00-045-3296	C-3	2
96906	MS35338-43	5310-00-045-3296	C-11	2
96906	MS35338-44	5310-00-582-5965	C-4	15
96906	MS35338-45	5310-00-407-9566	C-3	9
96906	MS35338-45	5310-00-407-9566	C-4	2
96906	MS35338-48	5310-00-584-5272	C-1	2
96906	MS35425-70	5310-01-064-8787	C-4	21
96906	MS35425-75	5310-01-078-5996	C-2	1
96906	MS35425-75	5310-01-078-5996	C-3	49
96906	MS35425-75	5310-01-078-5996	C-12	28
96906	MS35430-4	5940-00-681-8185	C-2	37
96906	MS35430-4	5940-00-681-8185	C-2	38
96906	MS35649-206	5310-00-138-4309	C-2	40
96906	MS35649-2386	5310-00-410-3032	C-3	51
96906	MS35649-244	5310-00-934-9748	C-2	45
96906	MS35649-244	5310-00-934-9748	C-3	55
96906	MS35649-264	5310-00-934-9761	C-2	33
96906	MS35649-264	5310-00-934-9761	C-3	41
96906	MS35650-304	5310-00-934-9765	C-3	24
75382	MS37TB-10-GME-7E		C-2	35
75382	MS37TB-12-GME-7E		C-3	34
75382	MS37TB-18-GME-7E		C-3	30
96906	MS45904-74	5310-00-901-0279	C-3	17
96906	MS49005-6	4730-00-057-5555	C-5	12
96906	MS49005-6	4730-00-057-5555	C-9	7
96906	MS51500B6	4730-00-088-8908	C-5	9
96906	MS51500B6	4730-00-088-8908	C-10	8
96906	MS51504A6	4730-00-812-7999	C-11	17
96906	MS51504A6-6S	4730-00-959-4912	C-10	7
96906	MS51504B12S	4730-00-322-8014	C-10	11
96906	MS51511B6	4730-00-995-1579	C-11	9
96906	MS51859-5	5310-00-138-4315	C-3	40
96906	MS51922-17	5310-00-087-4652	C-8	2
96906	MS51922-17	5310-00-087-4652	C-12	6
96906	MS51922-33	5310-00-225-6993	C-12	4
96906	MS51922-57	5310-00-067-6356	C-4	26
96906	MS51957-17	5305-00-054-5651	C-2	44
96906	MS51957-18	5305-00-054-5652	C-3	54
96906	MS51957-31	5310-00-054-6655	C-3	27
96906	MS51957-32	5305-00-054-6656	C-2	28
96906	MS51957-63	5305-00-050-9229	C-5	3
96906	MS51958-62	5305-00-059-3658	C-3	20
96906	MS51958-64	5305-00-059-3660	C-3	45
96906	MS53075-1	2910-00-459-8447	C-5	2
96906	MS77066-4	5940-00-159-1290	C-3	38
96906	MS90561-4		C-2	59
96906	MS90725-109	5305-00-044-4153	C-1	4
96906	MS90725-109	5305-00-044-4153	C-4	28
96906	MS90725-111	5305-00-782-9495	C-1	1
96906	MS90725-111	5305-00-782-9495	C-12	18
96906	MS90725-114	5305-00-071-2070	C-12	1
96906	MS90725-189	5305-00-922-7994	C-4	25
96906	MS90725-31	5306-00-225-8496	C-3	8
96906	MS90725-32	5306-00-225-8497	C-4	4
96906	MS90725-34	5306-00-225-8499	C-4	1
96906	MS90725-60	5305-00-269-3211	C-8	1
96906	MS90725-60	5305-00-269-3211	C-12	34
96906	MS90725-62	5305-00-269-3213	C-12	15
96906	MS90725-64	5305-00-269-3214	C-12	5
96906	MS90726-64	5305-00-269-2807	C-6	1
81349	MW-C16(19)JO	6145-00-548-2403	BULK	
81349	MW-C16(19)JO	6145-00-548-2403	C-2	7
81349	MW-C16(19)JO	6145-00-548-2403	C-2	8
81349	MW-C16(19)JO	6145-00-548-2403	C-2	10
81349	M13486/1-14		BULK	
81349	M13486/1-14		C-1	6
81349	M16878/4BHE9	6145-01-140-9821	BULK	
81349	M16878/4BHE9	6145-01-140-9821	C-2	43
81349	M16878/4BHE9	6145-01-140-9821	C-2	49
81349	M16878/4BHE9	6145-01-140-9821	C-2	50
81349	M16878/4BHE9	6145-01-140-9821	C-2	51
81349	M16878/4BHE9	6145-01-140-9821	C-2	52
81349	M16878/4BHE9	6145-01-140-9821	C-3	32
81349	M16878/4BHE9	6145-01-140-9821	C-3	43
81349	M16878/4BHE9	6145-01-140-9821	C-3	57
81349	M16878/8BJE9		BULK	
81349	M16878/8BJE9		C-3	47
81349	M16878/8BPL9		BULK	

NATIONAL STOCK NUMBER AND PART NUMBER INDEX (CONT)

PART NUMBER INDEX (CONT)

FSCM	PART NUMBER	STOCK NUMBER	FIGURE NO.	ITEM NO.
81349	M16878/8BPL9		C-3	47
81349	M16878/8BTM9		BULK	
81349	M16878/8BTM9		C-3	47
81349	M16878/8BUM9		BULK	
81349	M16878/8BUM9		C-3	23
96906	M19500/260		C-3	37
81349	M23053/16-001-0	5970-01-109-3903	BULK	
81349	M23053/16-001-0	5970-01-109-3903	C-2	37
81349	M23053/16-001-0	5970-01-109-3903	C-2	38
81349	M23053/5-104-0	5970-00-812-2969	BULK	
81349	M23053/5-104-0	5970-00-812-2969	C-2	49
81349	M23053/5-104-0	5970-00-812-2969	C-2	50
81349	M23053/5-104-0	5970-00-812-2969	C-2	51
81349	M23053/5-104-0	5970-00-812-2969	C-2	52
81349	M23053/5-104-0	5970-00-812-2969	C-3	43
81349	M23053/5-105-0	5970-00-954-1622	BULK	
81349	M23053/5-105-0	5970-00-954-1622	C-3	47
81349	M23053/5-105-0	5970-00-954-1622	C-3	57
81349	M23053/5-106-0	5970-00-815-1295	BULK	
81349	M23053/5-106-0	5970-00-815-1295	C-2	20
81349	M23053/5-106-0	5970-00-815-1295	C-3	57
81349	M23053/5-107-0	5970-00-954-1624	BULK	
81349	M23053/5-107-0	5970-00-954-1624	C-2	19
81349	M23053/5-107-0	5970-00-954-1624	C-2	21
81349	M23053/5-107-0	5970-00-954-1624	C-2	49
81349	M23053/5-107-0	5970-00-954-1624	C-2	50
81349	M23053/5-107-0	5970-00-954-1624	C-2	51
81349	M23053/5-107-0	5970-00-954-1624	C-2	52
81349	M23053/5-108-0	5970-00-812-2967	BULK	
81349	M23053/5-108-0	5970-00-812-2967	C-3	32
81349	M23053/5-108-0	5970-00-812-2967	C-3	43
81349	M23053/5-108-0	5970-00-812-2967	C-3	47
81349	M23053/5-108-0	5970-00-812-2967	C-3	67
81349	M23053/5-108-0	5970-00-812-2967	C-3	69
81349	M23053/5-109-0	5970-00-914-3118	BULK	
81349	M23053/5-109-0	5970-00-914-3118	C-1	6
81349	M23053/5-109-0	5970-00-914-3118	C-3	67
81349	M23053/5-109-0	5970-00-914-3118	C-3	69
81349	M23053/5-110-0	5970-00-815-1300	BULK	
81349	M23053/5-110-0	5970-00-815-1300	C-3	23
81349	M23053/5-112-9	5970-00-834-9119	BULK	
81349	M23053/5-112-9	5970-00-834-9119	C-3	5
81349	M23053/5-112-9	5970-00-834-9119	C-3	67
81349	M23053/5-112-9	5970-00-834-9119	C-3	69
96906	M5757/23-003	5945-00-435-1833	C-2	53
96906	M5757/23-003	5945-00-435-1833	C-3	36
80205	NAS1057T3-025	5365-00-723-4264	C-3	26
80205	NAS1297-10-24	5306-00-864-5939	C-4	22
80205	NAS47N3A-100		C-3	39
98660	R1000-6-6	4730-01-137-3100	C-9	6
12623	S-18KF8	4820-01-137-3095	C-7	3
81348	W-R-550	5975-00-296-5324	C-4	18
06090	WCSF-1500-18-A	6145-01-143-0040	C-3	5
09922	YAV25-RS	5940-01-149-9012	C-3	23
81343	12-12-140137		C-10	9
97403	13212E3617	2590-00-932-7298	C-4	19
97403	13214E1213-1	5340-00-914-2578	C-4	17
97403	13214E1214	5340-00-999-6277	C-4	12
97403	13214E1223	5307-00-227-1741	C-3	53
97403	13217E2005		C-3	19
97403	13217E2005		C-4	10
97403	13217E2005		C-12	42
97403	13220E0646		C-4	6
97403	13220E0649		C-4	24
97403	13220E0651		C-5	16
97403	13220E0655	4810-01-130-3223	C-8	3
97403	13220E0656	4710-01-134-7298	C-5	8
97403	13220E0660		C-5	1
97403	13220E0663	6680-01-130-3230	C-5	11
97403	13220E0667		C-4	3
97403	13220E0669-4		C-2	4
97403	13220E0669-4		C-12	33
97403	13220E0669-7		C-2	3
97403	13220E0670-10		C-12	11
97403	13220E0670-5		C-12	20
97403	13220E0680	4820-01-121-0781	C-10	14
97403	13220E0697-1		C-2	9
97403	13220E0697-2		C-2	11
97403	13220E0697-3		C-12	9
97403	13220E0703		C-12	19
97403	13220E0706		C-12	8
97403	13220E0721	6115-01-134-7287	C-10	13
97403	13220E0734		C-4	16
97403	13220E0743-1	4710-01-130-3242	C-11	16
97403	13220E0743-2		C-11	8
97403	13220E0743-3	4710-01-130-3243	C-11	11
97403	13220E0754		C-12	25
97403	13220E2844		C-2	37
97403	13220E2844		C-2	38
97403	13221E4790		C-12	36
97403	13221E4791		C-12	35
97403	13221E4793		C-12	39
97403	13221E4794		C-12	38
97403	13221E9300	5307-01-134-7295	C-2	12
97403	13221E9301-1	5365-01-135-3448	C-11	3
97403	13222E1440		C-3	6
97403	13222E6988	5330-01-137-3172	C-5	7
97403	13222E7029-2	4730-01-137-3099	C-7	1
97403	13222E7029-2	4730-01-137-3099	C-10	6
97403	13222E7029-2	4730-01-137-3099	C-11	14
97403	13222E7029-5	4730-01-137-3097	C-10	10
97403	13222E9698		C-5	6
97403	13222E9699-3		C-1	6
97403	13222E9706-2	4730-01-137-3098	C-7	7
97403	13222E9716		C-12	40
97403	13222E9717		C-12	12
97403	13222E9718		C-12	37
97403	13222E9724		C-12	23
97403	13222E9725		C-12	3
97403	13222E9728		C-12	17
97403	13222E9729	5340-01-135-3449	C-12	16
97403	13222E9730		C-12	13
97403	13222E9731		C-12	24
97403	13225E8672-1		C-2	37
97403	13225E8672-2		C-2	38
97403	13225E9693	6115-01-130-7252	C-3	5
97403	13226E0912	6115-01-137-3096	C-4	7
97403	13226E1131	4730-01-137-3093	C-9	11
97403	13226E1132		C-9	13
97403	13226E1335-1	4730-01-137-3094	C-7	2
97403	13226E1440		C-3	5C
97403	13226E1410		C-3	5D
97403	13226E1565		C-4	27
97403	13226E1567		C-4	11
97403	13226E1867-4		C-12	14
97403	13226E2158		C-12	43
97403	13226E6135		C-2	27
97403	13226E6136		C-2	58
97403	13226E6137		C-2	31
97403	13226E6138		C-2	49
97403	13226E6139		C-2	55
97403	13226E6140		C-3	7
97403	13226E6141		C-3	71
97403	13226E6142		C-3	25
97403	13226E6143		C-3	11
97403	13226E6144		C-4	9
97403	13226E6146		C-3	47
97403	13226E6148		C-3	57
97403	13226E6149		C-3	43
97403	13226E6150		C-3	23
97403	13226E6155-1		C-2	19
97403	13226E6155-2		C-2	21
97403	13226E6156		C-2	20
97403	13226E6157		C-2	25
97403	13226E6158-1		C-3	67
97403	13226E6158-2		C-3	69
97403	13226E6159-1		C-3	63
97403	13226E6159-2		C-3	70
97403	13226E6162-1		C-3	62
97403	13226E6162-2		C-3	66

NATIONAL STOCK NUMBER AND PART NUMBER INDEX (CONT)

PART NUMBER INDEX (CONT)

FSCM	PART NUMBER	STOCK NUMBER	FIGURE NO.	ITEM NO.
97403	13226E6163-1		C-2	10
97403	13226E6163-2		C-2	8
97403	13226E6163-3		C-2	7
97403	13226E6163-4		C-2	43
97403	13226E7752		C-3	22
97403	13226E7765		C-2	50
97403	13226E7766		C-2	51
97403	13226E7767		C-3	32
97403	13226E7771		C-2	52
97403	13226E8083		C-1	6
01276	2020-6-6S	4730-01-134-7293	C-11	12
01276	2083-8-8S	4730-00-314-1738	C-7	8
01276	2216-8-10S	4730-01-137-5485	C-7	6
13174	25UA-08	4730-01-137-3168	C-7	4
13174	25UG-08	4730-01-137-3169	C-7	5
33457	256546	4930-00-477-8276	C-6	4
71286	26R16-1	5325-00-584-6638	C-3	16
71286	2600-LW	5310-00-337-8329	C-3	13
71286	2600-11		C-3	12
01276	2807-5		BULK	
01276	2807-5		C-9	1
01276	2807-6	4720-00-406-3309	BULK	
01276	2807-6	4720-00-406-3309	C-11	6
07700	30-01712		C-3	61
07700	30-01713		C-3	65
81349	37TB10	5940-00-983-6051	C-2	34
81349	37TB12	5940-00-983-6053	C-3	33
81349	37TB18	5940-00-983-6059	C-3	29
06324	390BA002N1104HA		C-2	20
06324	390BA002N1404HA		C-2	19
06324	390BA002N1404HA		C-2	21
06324	390BB002N2632HA		C-3	67
06324	390BB002N2632HA		C-3	69
06324	390HS002M1504H4		C-2	19
06324	390HS002M1504H4		C-2	20
06324	390HS002M1504H4		C-2	21
87373	4010-3		C-5	14
07700	43-00256		BULK	
07700	43-00256		C-2	32
07700	43-00263		BULK	
07700	43-00263		C-3	14
07700	48-61144		C-3	48
07700	48-61434		C-2	48
07700	48-61434		C-3	58
07700	48-61491		C-3	44
87373	5209-3	5340-01-140-5473	C-5	13
82181	59A0358-1	5307-00-045-8172	C-12	32
81343	6-6-070101		C-11	7
81343	6-6-070321		C-11	13
01276	63-190600-5		C-9	2
01276	63-190600-6	4730-00-066-0735	C-11	6
98749	68C23097-1		C-2	59
98749	68D22885	6115-01-130-6642	C-2	59
12115	7513-6210-1		C-12	3
30554	80-6115		C-2	59
13174	857-FS-06X06X04		C-11	10
03950	8723-0091	5940-00-147-2972	C-2	37
03950	8723-0091	5940-00-147-2972	C-3	32

APPENDIX D
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

D-1. SCOPE. This listing is for informational purposes only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

D-2. EXPLANATION OF COLUMNS

a. Column (1) - Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use cleaning compound, item 5, App. D").

b. Column (2) - Level. This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/crew
O - Organizational maintenance
F - Direct support maintenance

c. Column (3) - National Stock Number. This is the National stock number assigned to the item; use it to request or requisition the item.

d. Column (4) - Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by the part number.

e. Column (5) - Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., EA, IN, PR). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

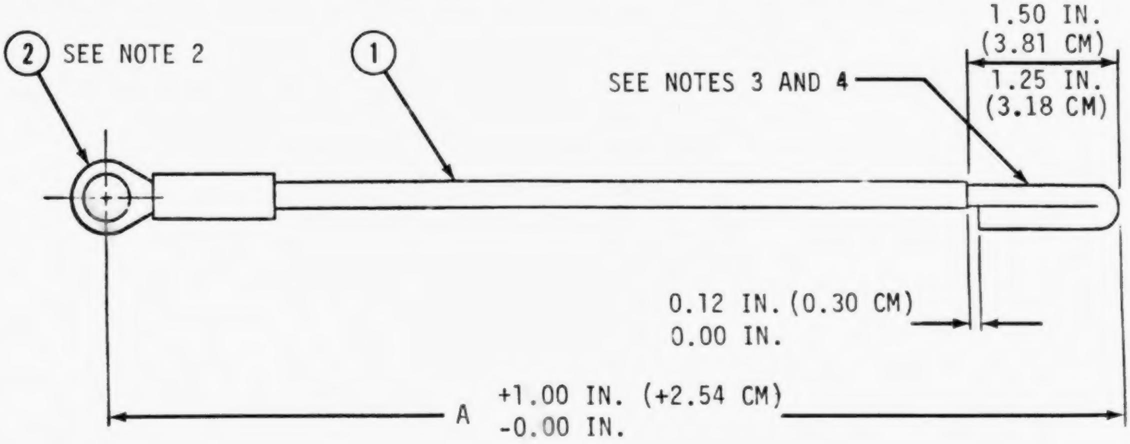
Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	F		ADHESIVE-SEALANT, SILICONE, RTV MIL-A-46146, TYPE 1 (81349)	QT
2	F		ADHESIVE, SILICONE, CONDUCTIVE 13222E9697	EA
3	O		DIESEL FUEL, (EMERGENCY ONLY) MIL-F-16884	GA
4	F	5970-00-419-4291	ELECTRICAL TAPE	RL
5	O	9140-00-286-5283	FUEL, ARCTIC DIESEL, 1 (DC-A) VV-C-800	GA
6	C	9140-00-286-5294	FUEL, REGULAR DIESEL, 1 (DC-2), VV-C-800	GA
7	O	9140-00-286-5286	FUEL, WINTER DIESEL, 1 (DC-1) VV-C-800	GA
8	O		GASOLINE, AVIATION, (EMERGENCY ONLY) MIL-G-5572	GA
9	O		GASOLINE, COMBAT, (EMERGENCY ONLY) MIL-G-5572	GA
10	C		1/4-INCH ROPE	FT
11	C	7920-00-205-1711	RAGS	EA
12	F		SEALING COMPOUND, MIL-S-22473, GRADE CY (81539)	EA
13	F	3439-00-555-4629	SOLDER, SN60WRP2 (81349)	LB
14	C	7905-00-537-8957	TAGS	EA
15	O	9140-00-256-8613	TURBINE FUEL, AVIATION, (JP-4) MIL-J-5624	GA
16	O	9140-00-273-2379	TURBINE FUEL, AVIATION, (JP-5) MIL-J-5624	GA

APPENDIX E
ILLUSTRATED LIST OF MANUFACTURED ITEMS

This appendix includes complete instructions for making items authorized to be manufactured or fabricated at organizational maintenance. A part number index in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the figure which covers fabrication criteria.

All bulk materials needed for manufacture of an item are listed by part number or specification number in a tabular list on the illustration.

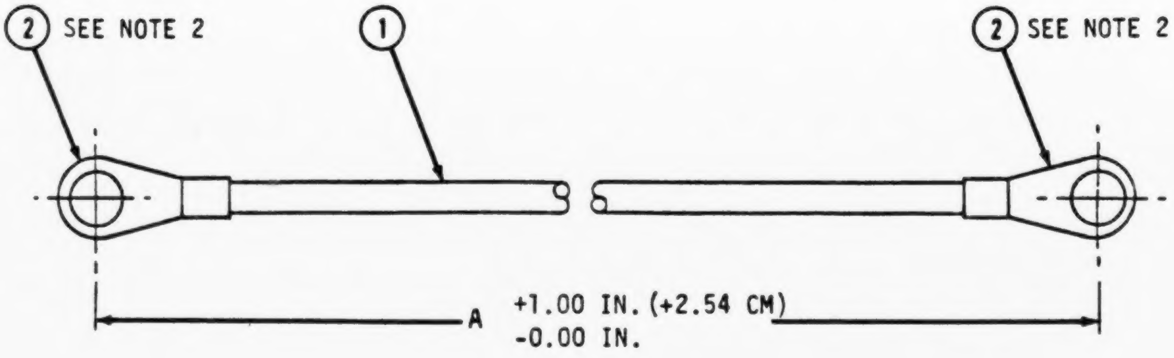


NOTES:
1. IDENTIFY WIRES.
2. INSTALLED TERMINAL LUG, FIND NO. 2, WILL HAVE SOLID CRIMP.
3. REMOVE INSULATION FROM WIRE, FIND NO. 1, AS SHOWN.
4. TIN STRIP END OF WIRE USING SOLDER, FIND NO. 3.

FIND NO.	PART OR IDENTIFYING NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION
3	SN60WRP2	AR	SOLDER	QQ-S-571
2	MS25036-122	1	TERMINAL LUG, CRIMP STYLE	
1	HW-C6(127)JO	1	WIRE, SIZE 6	MIL-W-5086/2

PART NUMBER	DASH NO.	DIM A
13220E0697	-1	35.00 in. (88.9 cm)
13220E0697	-2	41.00 in. (104.14 cm)
13220E0697	-3	300.00 in. (762.00 cm)

Figure E-1. Ground Wire Assembly (13220E0697)

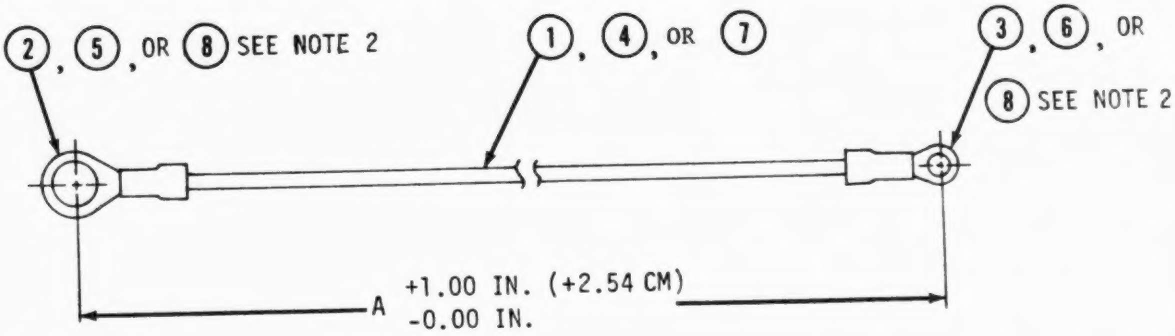


NOTES:
1. IDENTIFY WIRES.
2. INSTALLED TERMINAL LUG, FIND NO. 2, WILL HAVE SOLID CRIMP.

FIND NO.	PART OR IDENTIFYING NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION
2	MS25036-122	2	TERMINAL LUG, CRIMP STYLE	
1	HW-C6(127)JO	1	WIRE, SIZE 6	MIL-W-5086/2

PART NUMBER	DASH NO.	DIM A
13220E0669	-4	104.00 in. (264.16 cm)
13220E0669	-5	152.00 in. (386.08 cm)
13220E0669	-7	30.00 in.(76.2 cm)

Figure E-2. Ground Wire Assembly (13220E0669)

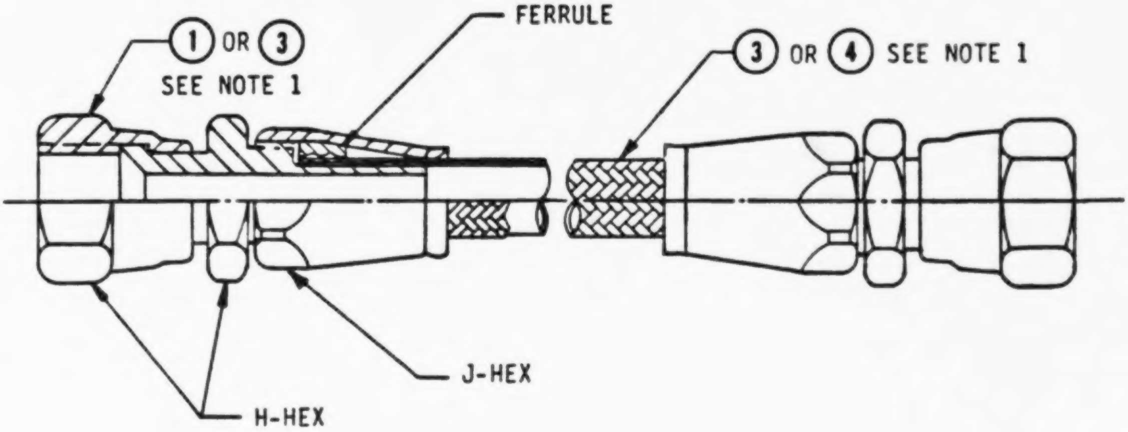


NOTES:
1. IDENTIFY WIRES.
2. INSTALLED TERMINAL LUG, FIND NO. 2, WILL HAVE SOLID CRIMP.

FIND NO.	PART OR IDENTIFYING NO.	QTY REQD -5	QTY REQD -4	QTY REQD -3	QTY REQD -2	QTY REQD -1	NOMENCLATURE OR DESCRIPTION	SPECIFICATION
8	MS25036-106	2	-	-	-	-	TERMINAL LUG, 16-14 AWG, 138 STUD SIZE	
7	M16878/4BHE9	1	-	-	-	-	WIRE, ELECTRICAL, INSULATED, 16 AWG, WHT	MIL-W-16878/4
6	MS25036-102	-	1	-	-	-	TERMINAL LUG, 22-18 AWG, 0.138 STUD SIZE	
5	MS25036-103	-	1	-	-	-	TERMINAL LUG, 22-18 AWG, 0.190 STUD SIZE	
4	M16878/4BHE9	-	1	-	-	-	WIRE, ELECTRICAL, INSULATED, 18 AWG, WHT	MIL-W-16878/4
3	MS25036-108	-	-	1	1	1	TERMINAL LUG, 16-14 AWG, 0.190 STUD SIZE	
2	MS25036-110	-	-	1	1	1	TERMINAL LUG, 16-14 AWG, 0.375 STUD SIZE	
1	MW-C16(19)JO	-	-	1	1	1	WIRE, SIZE 16	MIL-W-76

PART NUMBER	DASH NO.	DIM A
13226E6163	-1	12.00 in. (30.48 cm)
13226E6163	-2	55.00 in. (139.70 cm)
13226E6163	-3	11.00 in. (27.94 cm)
13226E6163	-4	6.00 in. (15.24 cm)
13226E6163	-5	4.00 in. (10.16 cm)

Figure E-3. Ground Wire Assembly

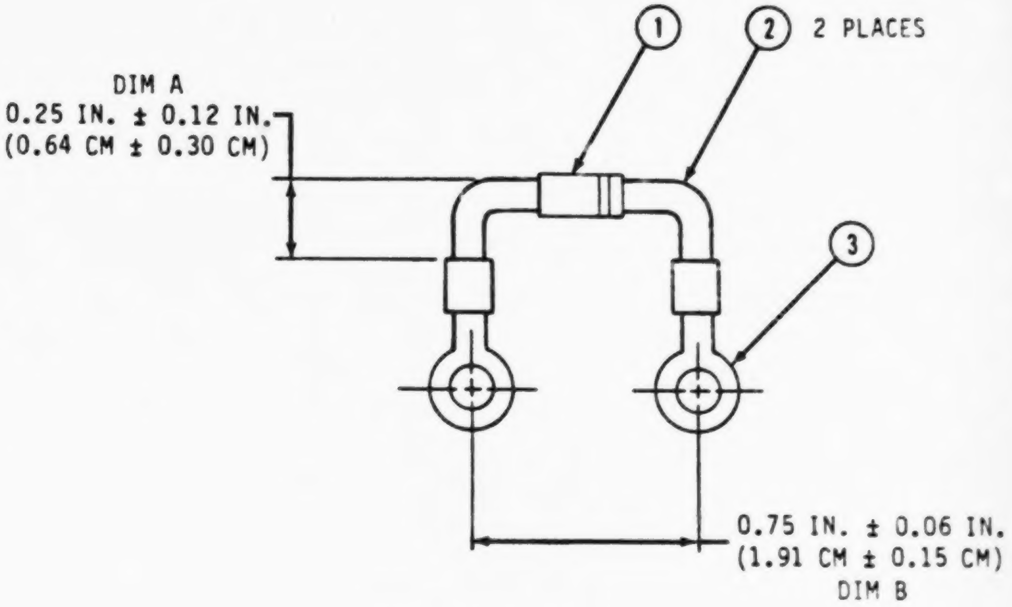


NOTES:
1. IDENTIFY HOSE AND FITTING.
2. CUT HOSE TO APPROPRIATE LENGTH USING DAMAGED FUEL HOSE AS A GUIDE.
3. SLIDE J-HEX OVER END OF HOSE.
4. PLACE FERRULE OVER END OF HOSE.
5. PLACE HOSE OVER FITTING.
6. TIGHTEN HEX NUTS.
7. ALL DIMENSIONS ARE IN INCHES.

2	63-190600-6	2	FITTING, 37° SWIVEL	3/8 in.	9/16 - 18	11/16	11/16
1	63-190600-5	2	FITTING, 37° SWIVEL	5/16 in.	1/2 - 20	5/8	5/8
FIND NO.	PART OR IDENTIFYING NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	TUBE SIZE	THREAD SIZE	H HEX	J HEX

4	2807-6	1	HOSE, EXTRUDED TEFLON	0.32 0.31	0.43 0.44	2500 1500	10,000 80,000	4 4
3	2807-5	1	HOSE, EXTRUDED TEFLON	0.26 0.25	0.37 0.38	3000 1500	12,000 9,000	3 3
FIND NO.	PART OR IDENTIFYING NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	HOSE ID	HOSE OD	MAXIMUM OPERATING PRESSURE (PSI)	MINIMUM BURST PRESSURE (PSI)	MINIMUM BEND RADIUS

Figure E-4. Fuel Hose

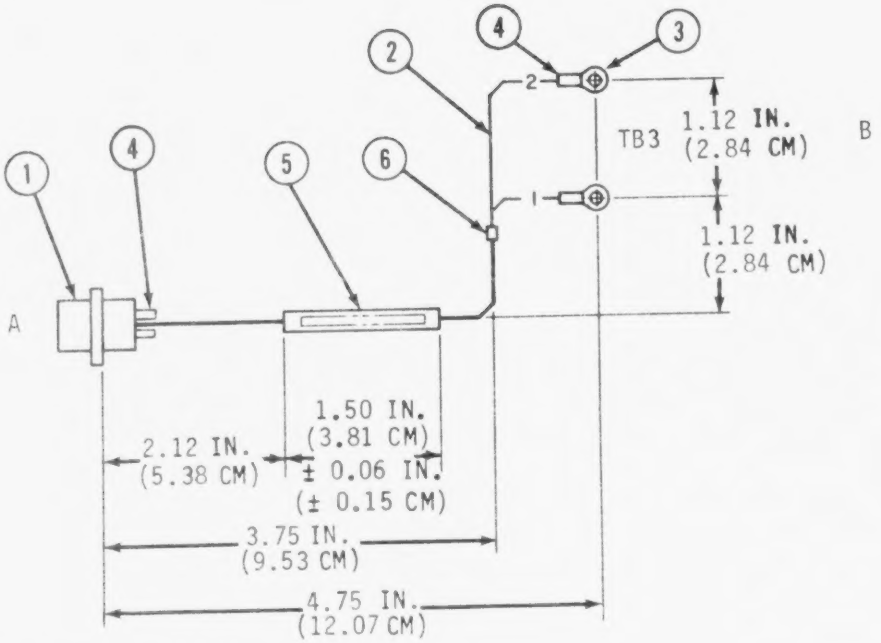

①
② 2 PLACES
③
DIM A
0.25 IN. ± 0.12 IN.
(0.64 CM ± 0.30 CM)
0.75 IN. ± 0.06 IN.
(1.91 CM ± 0.15 CM)
DIM B

NOTES:
1. FORM DIODE LEADS TO DIM A AND DIM B.
2. INSTALL INSULATION SLEEVING, FIND NO. 2.
3. INSTALL TERMINAL LUGS, FIND NO. 3.
4. SHRINK INSULATION SLEEVING, FIND NO. 2.

4	SN60WRP2	AR	SOLDER	QQ-S-571
3	MS35430-4	2	TERMINAL LUG, SOLDER TYPE, COPPER STAMPING, ONE HOLE	
2	M23053/16-001-0	AR	INSULATION SLEEVING, ELECTRIC, HEAT SHRINKABLE	MIL-I-23053/16
1	13220E2844	1	DIODE (1N4001)	
FIND NO.	PART OR IDENTIFYING NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION

PART NUMBER	DASH NO.	DIM A SEE NOTE 3	DIM B SEE NOTE 3
13225E8672	-1	0.25 in. (0.64 cm)	0.75 in. (1.91 cm)
13225E8672	-2	0.25 in. (0.64 cm)	0.75 in. (1.91 cm)

Figure E-5. Diode CR3/CR4 Assemblies (13225E8672-1/2)



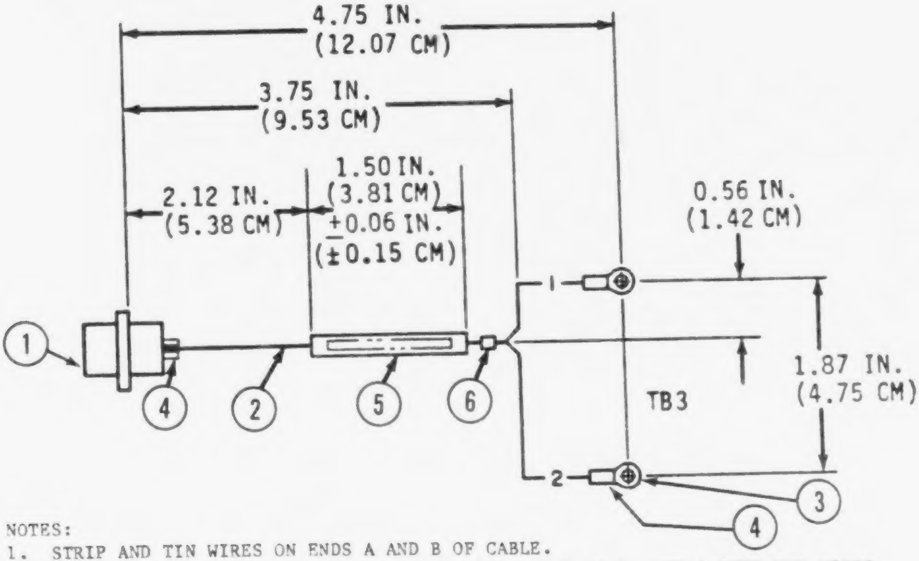
NOTES:

1. STRIP AND TIN WIRES ON ENDS A AND B OF CABLE.
2. SLIDE HEAT SHRINKABLE INSULATION SLEEVING, FIND NO. 6 AND 4 OVER TWO WIRES AT END A.
3. SLIDE HEAT SHRINKABLE INSULATION SLEEVING, FIND NO. 4, OVER TWO WIRES AT END B.
4. SOLDER WIRES TO FIND NO. 1 TERMINALS AND LUGS, FIND NO. 3.
5. INSTALL HEAT SHRINKABLE INSULATION SLEEVING, FIND NO. 4, OVER SOLDER JOINT TO ALLOW 1/8-INCH OVERLAP OF WIRE INSULATION.
6. INSTALL HEAT SHRINKABLE INSULATION SLEEVING, FIND NO. 6.
7. TEST WIRING USING WIRE LIST.

FIND NO.	PART OR IDENTIFYING NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION
6	MS3367-4-9	1	STRAP, TIEDOWN	
5	MS23053/5-107-0	1	INSULATION SLEEVING, HEAT SHRINKABLE	MIL-I-23053/5
4	MS23053/5-104-0	AR	INSULATION SLEEVING, HEAT SHRINKABLE	MIL-I-23053/5
3	MS25036-102	2	TERMINAL LUG, 22-18 AWG, 0.138 STUD SIZE	
2	M16878/4BHE9	AR	WIRE, ELECTRICAL, 18 AWG, WHT	MIL-W-16878/4
1	D38999/20FD5SN	1	CONNECTOR, RECEPTACLE, ELECTRICAL, SHELL SIZE 15	DOD-C-38999/20

WIRE LIST					
	TERMINATION		TERMINATION		
WIRE NO.	FROM	FIND NO.	TO	FIND NO.	WIRE FIND NO.
1	J7-D	1	TB3-5	3	2
2	J7-A	1	TB3-8	3	2

Figure E-6. J7 Wiring Harness (13226E7765)

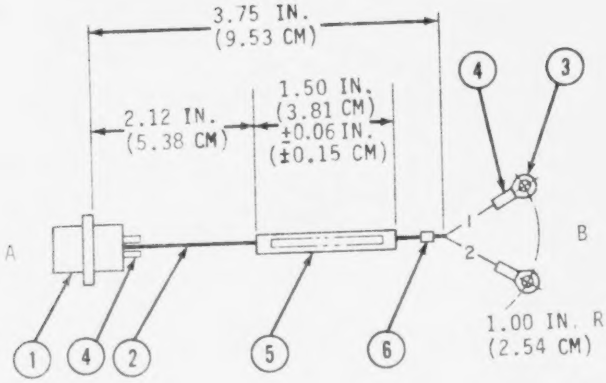


NOTES:
1. STRIP AND TIN WIRES ON ENDS A AND B OF CABLE.
2. SLIDE HEAT SHRINKABLE INSULATION SLEEVING, FIND NO 5. AND 4 OVER TWO WIRES AT END A.
3. SLIDE HEAT SHRINKABLE INSULATION SLEEVING, FIND NO. 4, OVER TWO WIRES AT END B.
4. SOLDER WIRES TO FIND NO. 1 TERMINALS AND LUGS, FIND NO. 3.
5. INSTALL HEAT SHRINKABLE INSULATION SLEEVING, FIND NO. 4, OVER SOLDER JOINT TO ALLOW 1/8-INCH OVERLAP OF WIRE INSULATION.
6. INSTALL TIE DOWN, FIND NO. 6.
7. TEST WIRING USING WIRE LIST.

6	MS3367-4-9	1	STRAP, TIEDOWN	
5	M23053/5-107-0	AR	INSULATION SLEEVING, HEAT SHRINKABLE	MIL-I-23053/5
4	M23053/5-104-0	AR	INSULATION SLEEVING, HEAT SHRINKABLE	MIL-I-23053/5
3	MS25036-102	2	TERMINAL LUG, 22-18 AWG, 0.138 STUD SIZE	
2	M16878/4BHE9	AR	WIRE, ELECTRICAL, 18 AWG, WHT	MIL-W-16878/4
1	D38999/20FD5SN	1	CONNECTOR, RECEPTACLE, ELECTRICAL, SHELL SIZE 15	DOD-C-38999/20
FIND NO.	PART OR IDENTIFYING NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION

	WIRE LIST				
	TERMINATION		TERMINATION		
WIRE NO.	FROM	FIND NO.	TO	FIND NO.	WIRE FIND NO.
1	J8-A	1	TB3-7	3	2
2	J8-B	1	TB3-7	3	2

Figure E-7. J8 Wiring Harness (13226E7766)



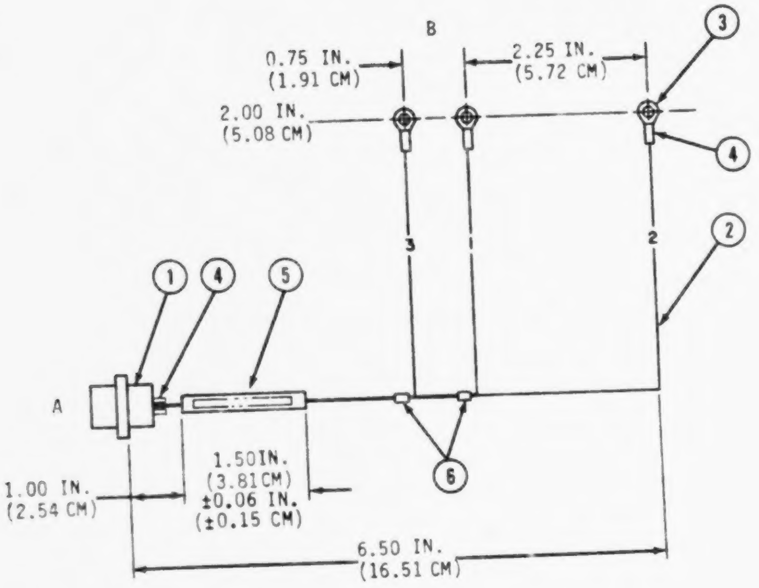
NOTES:

1. STRIP AND TIN WIRES ON ENDS A AND B OF CABLE.
2. SLIDE HEAT SHRINKABLE INSULATION SLEEVING, FIND NO. 6 AND 4 OVER TWO WIRES AT END A.
3. SLIDE HEAT SHRINKABLE INSULATION SLEEVING, FIND NO. 4, OVER TWO WIRES AT END B.
4. SOLDER WIRES TO FIND NO. 1 TERMINALS AND LUGS, FIND NO. 3.
5. INSTALL HEAT SHRINKABLE INSULATION SLEEVING, FIND NO. 4, OVER SOLDER JOINT TO ALLOW 1/8-INCH OVERLAP OF WIRE INSULATION.
6. INSTALL HEAT SHRINKABLE INSULATION SLEEVING, FIND NO. 6.
7. TEST WIRING USING WIRE LIST.

FIND NO.	PART OR IDENTIFYING NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION
6	MS3367-4-9	1	STRAP, TIEDOWN	
5	M23053/5-107-0	1	INSULATION SLEEVING, HEAT SHRINKABLE	MIL-I-23053/5
4	M23053/5-104-0	AR	INSULATION SLEEVING, HEAT SHRINKABLE	MIL-I-23053/5
3	MS25036-102	2	TERMINAL LUG, 22-18 AWG, 0.138 STUD SIZE	
2	M16878/4BHE9	AR	WIRE, ELECTRICAL, 18 AWG, WHT	MIL-W-16878/4
1	D38999/20FD5SN	1	CONNECTOR, RECEPTACLE, ELECTRICAL, SHELL SIZE 15	DOD-C-38999/20

WIRE LIST					
WIRE NO.	TERMINATION		TERMINATION		WIRE FIND NO.
	FROM	FIND NO.	TO	FIND NO.	
1	J9-C	1	TB3-10	3	2
2	J9-A	1	TB3-9	3	2

Figure E-8. J9 Wiring Harness (13226E7771)

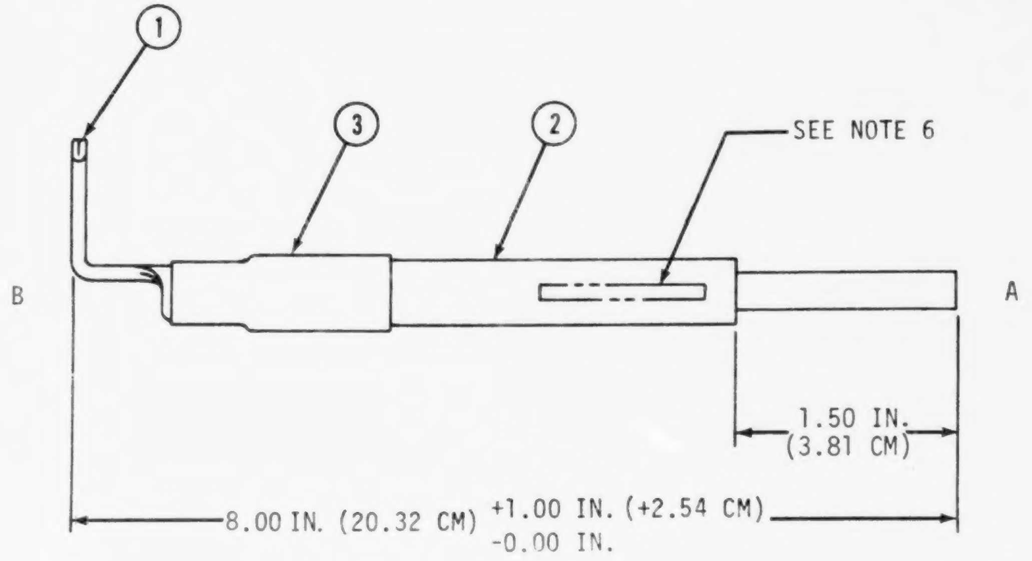


NOTES:
1. STRIP AND TIN WIRES ON ENDS A AND B OF CABLE.
2. SLIDE HEAT SHRINKABLE INSULATION SLEEVING, FIND NO. 5. AND 4 OVER TWO WIRES AT END A.
3. SLIDE HEAT SHRINKABLE INSULATION SLEEVING, FIND NO. 4, OVER TWO WIRES AT END B.
4. SOLDER WIRES TO FIND NO. 1 TERMINALS AND LUGS, FIND NO. 3.
5. INSTALL HEAT SHRINKABLE INSULATION SLEEVING, FIND NO. 4, OVER SOLDER JOINT TO ALLOW 1/8-INCH OVERLAP OF WIRE INSULATION.
6. INSTALL HEAT SHRINKABLE INSULATION SLEEVING, FIND NO. 5.
7. TEST WIRING USING WIRE LIST.

6	MS3367-4-9	1	STRAP, TIEDOWN	
5	M23053/5-107-0	1	INSULATION SLEEVING, HEAT SHRINKABLE	MIL-I-23053/5
4	M23053/5-104-0	AR	INSULATION SLEEVING, HEAT SHRINKABLE	MIL-I-23053/5
3	MS25036-102	2	TERMINAL LUG, 22-18 AWG, 0.138 STUD SIZE	
2	M16878/4BHE9	AR	WIRE, ELECTRICAL, 18 AWG, WHT	MIL-W-16878/4
1	D38999/20FD5PN	1	CONNECTOR, RECEPTACLE, ELECTRICAL, SHELL SIZE 15	DOD-C-38999/20
FIND NO.	PART OR IDENTIFYING NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION

	WIRE LIST				
	TERMINATION		TERMINATION		
WIRE NO.	FROM	FIND NO.	TO	FIND NO.	WIRE FIND NO.
1	J10-A	1	TB3-8	3	2
2	J10-B	1	TB3-2	3	2
3	J10-C	1	TB3-10	3	2

Figure E-9. J10 Wiring Harness (13226E6138)

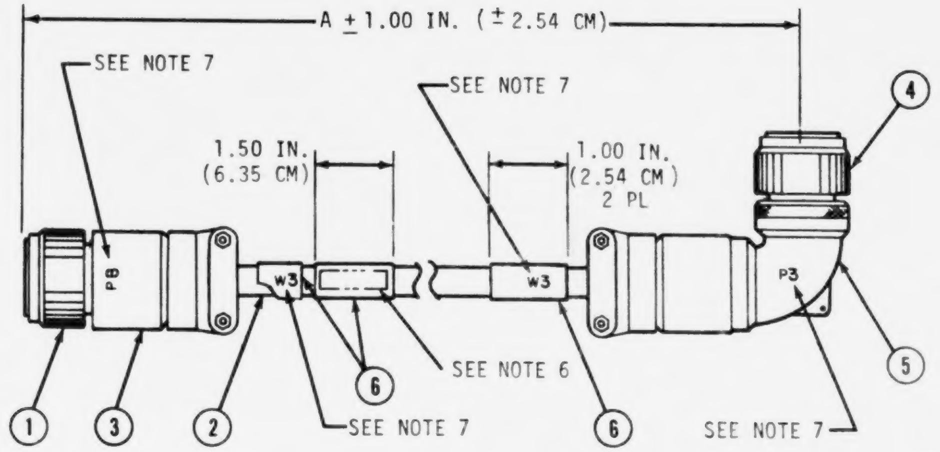


NOTES:

1. CUT WIRE, FIND NO. 2, TO PROPER LENGTH.
2. REMOVE INSULATION FROM END A OF WIRE AS SHOWN.
3. STRIP 1/4 IN. (0.64 CM) OF INSULATION FROM END B.
4. INSTALL INSULATION SLEEVING, FIND NO. 3.
5. INSTALL TERMINAL LUG, FIND NO. 1, BY CRIMPING IN ACCORDANCE WITH MIL-STD-454, REQUIREMENT 19.
6. TIN BARE WIRE AT END A USING SOLDER, FIND NO. 4.
7. SHRINK INSULATION SLEEVING USING HEAT GUN.
8. MARK WIRE WITH NUMBER, 97403-13226E8083.

FIND NO.	PART OR IDENTIFYING NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION
4	SN60WRP2	AR	SOLDER	QQ-S-571
3	MS23053/5-109-0	AR	INSULATION SLEEVING, HEAT SHRINKABLE, 0.75 IN. (1.91 CM) ID X 2.00 IN. ±0.06 L (5.08 CM ±0.15 CM)	MIL-I-23053/5
2	M13486/1-14	AR	WIRE, ELECTRICAL, 1/0 SIZE	MIL-C-13486/1
1	13222E9699-3	1	TERMINAL LUG, RIGHT ANGLE, 1/0, 0.50 IN. (1.27 CM) STUD SIZE	

Figure E-10. Ground Wire (13226E8083)

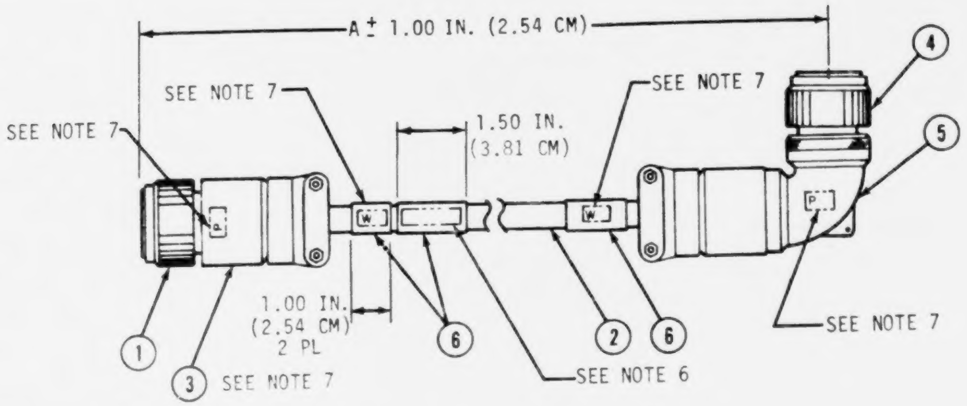


NOTES:
1. CUT CABLE, FIND NO. 2, TO PROPER LENGTH.
2. INSTALL INSULATION SLEEVING, FIND NO. 6, ON FIND NO. 2.
3. INSTALL FIND NO. 1 AND FIND NO. 4 INTO BACKSHELL, FIND NO. 3 AND 5.
4. FORM BRAIDED SHIELD OF CABLE AROUND EMI BUSHING OF BACKSHELL, FIND NO. 3 AND 5. TIGHTEN BACKSHELL.
5. SHRINK INSULATION SLEEVING USING HEAT GUN.
6. MARK CABLE WITH NUMBER, 97403-13226E6156.
7. MARK ITEM AS INDICATED, FIND NO. 3, FIND NO. 5, AND FIND NO. 6.
8. TEST WIRING USING WIRING TABLE.

FIND NO.	PART OR IDENTIFYING NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION
6	M23053/5-106-0	AR	INSULATION SLEEVING, HEAT SHRINKABLE	MIL-I-23053/5
5	390BA002N1104HA	1	BACKSHELL, CONNECTOR, ELECTRICAL	
4	MS3106R12S-3S	1	CONNECTOR, ELECTRIC, SHELL SIZE 15	DOD-C-38999/26
3	390HS002M1504H4	1	BACKSHELL, CONNECTOR, ELECTRICAL	
2	DDC 02A AGZ	1	CABLE	
1	D38999/26FD5PN	1	CONNECTOR, ELECTRIC, SHELL SIZE 15	DOD-C-38999/26

WIRING TABLE						
WIRE		TERMINATION		TERMINATION		DIM. A
COLOR	FIND NO.	FROM	FIND NO.	TO	FIND NO.	
WHITE-BLACK	2	P8-A	1	P3-A	4	30.00 IN. (76.2 CM)
WHITE-BROWN	2	P8-B	1	P3-B	4	30.00 IN. (76.2 CM)

Figure E-11. W3 Cable (13226E6156)



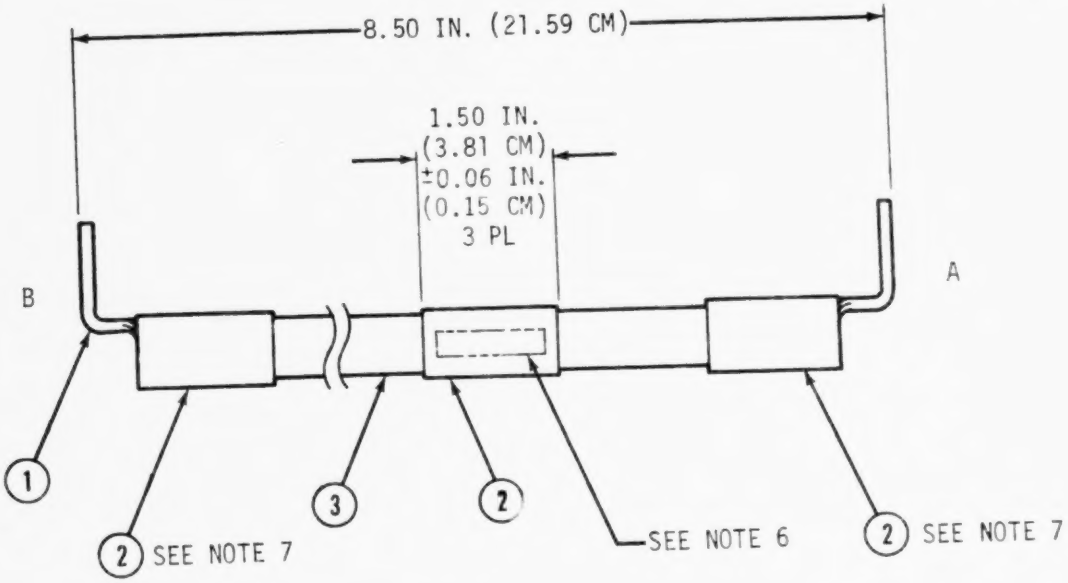
NOTES:
1. CUT CABLE, FIND NO. 2, TO PROPER LENGTH.
2. INSTALL INSULATION SLEEVING, FIND NO. 6, ON FIND NO. 2.
3. INSTALL FIND NO. 1 AND 4 INTO BACKSHELL, FIND NO. 3 AND 5. SOLDER USING FIND NO. 7.
4. FORM BRAIDED SHIELD OF CABLE AROUND EMI BUSHING OF BACKSHELL, FIND NO. 3 AND 5. TIGHTEN BACKSHELL.
5. SHRINK INSULATION SLEEVING USING HEAT GUN.
6. MARK CABLE WITH NUMBER, 97403-13226E6155-, AND APPROPRIATE DASH NUMBER.
7. MARK ITEM WITH APPROPRIATE NUMBER AS INDICATED, FIND NO. 3, FIND NO. 5, AND FIND NO. 6.
8. TEST WIRING USING WIRING TABLE.

7	SN60WRP2	AR	SOLDER	QQ-S-571
6	M23053/5-107-0	1	INSULATION SLEEVING, HEAT SHRINKABLE	MIL-I-23053/5
5	390BA002N1404HA	1	BACKSHELL, CONNECTOR, ELECTRICAL	
4	MS3106R14S-2S	1	CONNECTOR, ELECTRIC, SHELL SIZE 15	DOD-C-38999/26
3	390HS002-M1504H4	1	BACKSHELL, CONNECTOR, ELECTRICAL	
2	DDC 04A ABK	1	CABLE	
1	D38999/26FD5PN	1	CONNECTOR, ELECTRIC, SHELL SIZE 15	DOD-C-38999/26
FIND NO.	PART OR IDENTIFYING NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION

WIRING TABLE

DASH NO.	CABLE REF DES	WIRE		TERMINATION		TERMINATION		
		COLOR	FIND NO.	FROM	FIND NO.	TO	FIND NO.	DIM. A
-1	W2	WHITE-BLACK	2	P7-A	1	P2-A	4	27.00 IN. (68.58 CM)
		WHITE-BROWN	2	P7-B	1	P2-B	4	
		WHITE-RED	2	P7-C	1	P2-C	4	
		WHITE-ORANGE	2	P7-D	1	P2-D	4	
-2	W4	WHITE-BLACK	2	P9-A	1	P4-A	4	25.00 IN. (63.5 CM)
		WHITE-BROWN	2	P9-B	1	P4-B	4	
		WHITE-RED	2	P9-C	1	P4-C	4	
		WHITE-ORANGE	2	P9-D	1	P4-D	4	

Figure E-12. W2/W4 Cables (13226E6155)



NOTES:

1. CUT WIRE, FIND NO. 3, TO REQUIRED LENGTH.
2. STRIP 1/4 IN. (0.64 CM) OF INSULATION FROM EACH END OF WIRE.
3. INSTALL INSULATION SLEEVING, FIND NO. 2.
4. INSTALL TERMINAL LUG, FIND NO. 1, ON EACH END OF WIRE BY CRIMPING.
5. USE HEAT GUN TO SHRINK INSULATION SLEEVING.
6. MARK ASSEMBLY WITH NUMBER, 97403-13226E6150-, AND APPROPRIATE DASH NUMBER.
7. MARK WITH WORDS, FROM - TO, IN ACCORDANCE WITH MIL-M-60903.
8. TEST WIRING USING WIRING LIST.

3	M16878/8BUM9	1	WIRE, ELECTRICAL, 0 AWG, WHT	MIL-W-16878/8
2	M23053/5-110-0	AR	INSULATION SLEEVING, HEAT SHRINKABLE	MIL-I-23053/5
1	YAV25-RS	2	TERMINAL LUG, RIGHT ANGLE	
FIND NO.	PART OR IDENTIFYING NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION

	WIRING LIST			
	TERMINATION		TERMINATION	
DASH NO.	FROM	FIND NO.	TO	FIND NO.
-1	K1-A1	1	K2-A2	1
-2	K1-B2	1	K2-B2	1
-3	K1-C2	1	K2-C2	1

Figure E-13. Electrical Lead (13226E6150)

APPENDIX F

ADDITIONAL AUTHORIZATION LIST

Section I. INTRODUCTION

F-1. SCOPE. This appendix lists additional items you are authorized for the support of the EPU.

F-2. GENERAL. This list identifies items that do not have to accompany the EPU and that do not have to be turned in with it. These items are all authorized to you by CTA, MTOE, TDA, or JTA.

F-3. EXPLANATION OF LISTING. National stock numbers, descriptions, and quantities are provided to help you identify and request the additional items you require to support this equipment. The items are listed in alphabetical sequence by item name.

Section II. ADDITIONAL AUTHORIZATION LIST

(1) NATIONAL STOCK NUMBER	(2) DESCRIPTION FSCM & PART NUMBER	(3) U/M	(4) QTY AUTH
6625-00-999-6282	MULTIMETER 81349, MIL-M-12135	EA	1
5120-00-624-8065	PLIERS, CONDUIT, SLIP-JOINT 00784, AT508K	EA	1
	QUICK-DISCONNECT FUEL DRAIN HOSE	EA	1
4030-01-035-8942	SHACKLE 81348, QQ-Z-325, Type II	EA	1
5210-01-013-1676	SLIDE HAMMER, GR P/N P74-144	EA	1
4010-01-083-2453	SLING ASSEMBLY, WIRE ROPE, SINGLE LEG 12115, 7513-6210-1	EA	6
5120-00-240-5274	SOCKET HEAD SCREW KEY, 5/16-INCH 81348, GGG-K-00275	EA	1

ADDITIONAL AUTHORIZATION LIST (CONT)

(1) NATIONAL STOCK NUMBER	(2) DESCRIPTION FSCM & PART NUMBER	(3) U/M	(4) QTY AUTH
5120-00-775-6981	SOCKET, 1/4-INCH DEEP STYLE, 1/2-INCH SQUARE FEMALE DRIVE 07971, VL6	EA	1
3439-00-460-7198	SOLDERING AND DESOLDERING SET, ELECTRIC, TEMPERATURE CONTROLLED 97049, W-TCP-K	EA	1
5120-00-277-1485	WRENCH, PIPE, 18-INCH 81348, GGG-W-651, Type II	EA	1
5120-00-228-9516	WRENCH, COMBINATION BOX- AND OPEN-END, 1-1/8 INCH 70408, G243079-18	EA	1
5120-00-293-1455	WRENCH, SPANNER 81348, GGG-W-665	EA	1

INDEX

Subject — Para, Figure, Appendix

A

- AC, VOLTS meter, description and use 2-4
- Additional authorization list ..... F
- Administrative storage 1-4, 5-25
- After-operation preventive maintenance checks and services 2-7
- Auto start and compensation cable assembly
  - Remove 4-14
  - Replace 4-14
  - Test 4-14

B

- BATTERY CONNECTOR, EXTERNAL, description and use 2-5
- Battery drain fitting 2-9
- BATTERY HEATING circuit breaker CB1, description and use 2-5
- BATTERY HEATING connector J22, description and use 2-5
- Before-operation preventive maintenance checks and services 2-7
- Brace, front channel, replace 4-26

C

- Cable assembly, auto start and compensation
  - Remove 4-14
  - Replace 4-14
  - Test 4-14
- Cable, power, W1
  - Connection 2-9
  - Remove 4-15
  - Replace 4-15
  - Test 4-15
- Cable, power, W9
  - Remove 5-16
  - Replace 5-16
  - Test 5-16
- Cable, power, W10
  - Remove 5-17
  - Replace 5-17
  - Test 5-17
- Cable, signal, W7
  - Remove 5-18
  - Replace 5-18
  - Test 5-18

INDEX (CONT)

Subject — Para, Figure, Appendix

Cable, signal, W8
  Remove 5-19
  Replace 5-19
  Test 5-19
Cable, W2
  Fabricate E-12
  Remove 4-11
  Repair 5-11
  Replace 4-11
  Test 4-11
Cable, W3
  Fabricate E-11
  Remove 4-13
  Repair 5-11
  Replace 4-13
  Test 4-13
Cable, W4
  Fabricate E-12
  Remove 4-12
  Repair 5-11
  Replace 4-12
  Test 4-12
Cable, W5
  Connection 2-9
  Remove 4-16
  Replace 4-16
  Test 4-16
Cable, W6
  Remove 4-10
  Replace 4-10
  Test 4-10
Center tube supports, replace 4-26
Characteristics, capabilities, and features 1-7
Circuit breaker, CB1, BATTERY HEATING, description and use 2-5
Circuit breaker, CB4, description and use 2-5
COMBUSTOR DRAIN fitting 2-9
Communications relay group 1-1
COMPENSATION AND AUTO START connector J7, J8, and J9 description and use 2-5
Connector, J22, BATTERY HEATING, description and use 2-5
CONNECTOR, EXTERNAL BATTERY, description and use 2-5
Connector, J1, description 1-8
Connector, J6, description 1-8
Connector, J30 400HZ OUTPUT, description and use 2-5

INDEX (CONT)

Subject — Para, Figure, Appendix

Connector panel, output, description 2-5
Connector, J12, REMOTE CONTROL, description and use 2-5
Contactor, K1 or K2
  Description and use 1-8
  Remove 5-15
  Replace 5-15
  Test 5-15
Control panel, generator, description 1-8, 2-4
Control panel, turbine, description 1-8, 2-3
Control, VOLTAGE DROOP, description and use 2-4

D

Data handling plate 4-17, 5-21
Destruction of Army materiel to prevent enemy use 1-3
Diode CR2/CR2 Assemblies E-5
Direct support maintenance procedures 5-8
DROOP/ISOC switch, description and use 2-4
During-operation preventive maintenance checks
  and services 2-7

E

Electrical lead, fabricate E-13
Electric Power Unit
  Equipment data 1-9
  Characteristics, capabilities, and features 1-7
  Parking 2-9
  Technical principles of operation 1-10
End plate, front
  Description 1-8
  Remove 4-20, 5-21
  Replace 4-20, 5-21
End plate, rear
  Description 1-8
  Remove 5-21
  Replace 5-21
ENGINE CONTROL switch, description and use 2-3
Equipment data
  Electric power unit, AN/MJQ-21 1-9
  Equipment 1-9
  MEP404B generator set 1-9
  Pallet assembly 1-9
  Trailer, M353 (modified) 3½-ton 1-9
Equipment improvement recommendations 1-5
EXHAUST TEMPERATURE meter, description and use 2-3

INDEX (CONT)

Subject — Para, Figure, Appendix

EXH OVER TEMP indicator, description and use 2-4
Expendable/Durable Supplies and Materials List .... D
EXTERNAL BATTERY CONNECTOR, description and use 2-5
External fuel drain assembly, description 1-8

F

Fabricated items .... E
  Diode CR2/CR3 assemblies E-5
  Electrical lead E-13
  Fuel hose E-4
  Ground wire assembly E-3
  Ground wire assembly (13220E0669) E-2
  Ground wire assembly (13220E0697) E-1
  Ground wire (13226E8083) E-10
  J7 wiring harness (13226E7765) E-6
  J8 wiring harness (13226E7766) E-7
  J9 wiring harness (13226E7771) E-8
  J10 wiring harness (13226E6138) E-9
  W2 cable E-12
  W3 cable E-11
  W4 cable E-12
Features and capabilities 1-7
FREQ ADJUST control, description and use 2-4
FREQ DROOP control, description and use 2-4
FREQUENCY METER, description and use 2-4
Front channel brace, replace 4-26
Fuel
  Check valve assembly, replace 4-24
  Diagram plate 4-17, 5-21
  Drain line connection 2-9
  External drain assembly, description 1-8
  Filter drain connection 2-9
  Filter element 4-20
  Hose, fabrication of E-4
  Inlet connection 2-9
  Level gages, description 1-8
  Level sensors
    Description 1-8
    Remove 4-19
    Replace 4-19
  Lines and fittings, external
    Remove 5-23
    Repair 5-23
    Replace 5-23

INDEX (CONT)

Subject — Para, Figure, Appendix

  - Lines and fittings, internal
    - Remove 4-25
    - Repair 4-25
    - Replace 4-25
  - LOW FUEL indicator, description and use 2-3
  - Shutoff valves, fuel, replace 4-21
- Fuel distribution unit
  - Description 1-8
  - Install 5-9
  - Remove 5-9
  - Repair 5-9
  - Replace 5-9
- Fuel distribution unit cover
  - Remove 5-9
  - Install 5-9
  - Repair 5-9
  - Replace 5-9
- Fuel filter/water separator
  - Description 1-8
  - Draining 3-4
  - Remove 4-20
  - Replace 4-20
  - Service 4-20
- Fuel tank assembly components
  - Remove 4-22
  - Replace 4-22
- Fuel tanks
  - Description 1-8
  - Drain, description 1-8
  - Filler neck, description 1-8
  - Remove 5-21
  - Replace 5-21
  - Vent, description 1-8

G

- Gages, fuel-level, description 1-8
- Gate, valve, description 1-8
- Generator control panel, description 1-8
- Generator set, MEP404B
  - Description 1-8
  - Remove 4-9
  - Replace 4-9
  - Shipment 5-25
- Glossary 1-6

INDEX (CONT)

Subject — Para, Figure, Appendix

Grounding stud, description 1-8
Grounding system, trailer, description 1-8
Ground rod assembly
  Description 1-8
  Emplacement 2-9
GROUND terminal, description and use 2-5
Ground wire connection, trailer 2-9
Ground wire, pallet assembly
  Fabricate E-2, E-10
  Replace 4-17
Ground wire, trailer assembly
  Description 1-8
  Fabricate E-1, E-3
  Replace 4-26

H

Hour meter, description and use 2-3
How To Use This Manual .... Front Matter

I

Identification plate 4-17, 5-21
Illustrated list of manufactured items .... E
Indicators
  EXH OVER TEMP, description and use 2-3
  LOW FUEL, description and use 2-3
  LOW OIL PRESSURE/HIGH OIL TEMP description and use 2-3
  OUTPUT CKT BKR CLOSED, description and use 2-4
  OUTPUT CKT BKR OPEN, description and use 2-4
  OVER LOAD, description and use 2-4
  OVER SPEED, description and use 2-4
  OVER VOLTAGE, description and use 2-4
  READY TO PARALLEL, description and use 2-4
  REVERSE CURRENT, description and use 2-4
  START FAILURE, description and use 2-4
  STARTER HOT, description and use 2-3
  UNDER FREQ, description and use 2-4
  UNDER VOLTAGE, description and use 2-4
Information Coordination Central 1-1
Inspection, preembarkation 5-26

J

J1 connector, description 1-8
J6 connector, description 1-8

INDEX (CONT)

Subject	Para, Figure, Appendix
J7, J8, and J9 COMPENSATION AND AUTO START connectors	2-5
J7 wiring harness	
Inspect	5-13
Fabricate	E-6
Remove	5-13
Replace	5-13
Test	5-13
J8 wiring harness	
Inspect	5-13
Fabricate	E-7
Remove	5-13
Replace	5-13
Test	5-13
J9 wiring harness	
Inspect	5-13
Fabricate	E-8
Remove	5-13
Replace	5-13
Test	5-13
J10 wiring harness	
Inspect	5-13
Fabricate	E-9
Remove	5-13
Replace	5-13
Test	5-13
J11 connector, description	1-8
J12 REMOTE CONTROL connector	2-5
J22 BATTERY HEATING connector	2-5
J27 115 V 400 HZ convenience receptacle	2-5
J30 400HZ OUTPUT connector	2-5

K

Subject	Para, Figure, Appendix
KILOWATTS meter, description and use	2-5
K1 and K2 contactors	
Remove	5-15
Replace	5-15
Test	5-15

L

Subject	Para, Figure, Appendix
Lead, electrical, fabricate	E-13
Light, panel, description and use	2-3
LIGHTS, PARALLEL-AID SYNC, description and use	2-4
LOCAL/REMOTE switch, description and use	2-4
Lubrication instructions	3-2

INDEX (CONT)

Subject — Para, Figure, Appendix

M

Maintenance allocation chart .... B
Maintenance forms and records 1-2
Maintenance instructions, direct support and
  general support 5-1
Maintenance, operator 3-1
Maintenance, organizational 4-1
Maintenance procedures
  Direct support 5-8
  General support 5-8
  Organizational 4-8
MASTER SWITCH, description and use 2-3
MEP404B generator set
  Description 1-8
  Equipment data 1-9
  Remove 4-9
  Replace 4-9
MEP404B ground wire assembly
  Fabrication E-1
Meters
  DISCHARGE/CHARGE, description and use 2-3
  EXHAUST TEMPERATURE description and use 2-3
  FREQUENCY METER, description and use 2-4
  Hours, description and use 2-3
  KILOWATTS, description and use 2-4
  PERCENT OF LOAD, description and use 2-4
  % OF SPEED, description and use 2-3
  VOLTS AC, description and use 2-4
Monthly preventive maintenance checks and services 4-6
Muffler drain line connection 2-9

O

OIL DRAIN and reduction drive vent 2-9
Oil pressure, low indicator, description and use 2-3
Operating procedures 2-9
Operation 2-9
Operation, preparation for 2-9
Operation under usual conditions 2-8
OUTPUT CKT BKR CLOSED indicator, description and use 2-4
OUTPUT CKT BKR OPEN, indicator, description and use 2-4
OUTPUT CKT BKR switch, description and use 2-4
OUTPUT connector, J30 400HZ, description and use 2-5
Output connector panel, description 1-8

INDEX (CONT)

Subject — Para, Figure, Appendix

OVER LOAD indicator, description and use 2-4
OVER SPEED indicator, description and use 2-3
OVER VOLTAGE indicator, description and use 2-4

P

Pallet assembly
  Description 1-8
  Equipment data 1-9
  Remove 4-17
  Replace 4-17
Pallet frame
  Description 1-8
  Remove 5-21
  Repair 5-21
  Replace 5-21
Panel lights, description and use 2-3
PANEL LIGHTS switch, description and use 2-4
PARALLEL AID SYNC LIGHTS, description and use 2-4
PARALLEL indicator, READY TO, description and use 2-4
Parallel operation 2-9c
Parking, Electric Power Unit 2-9
PDU Cover
  Install 5-14
  Remove 5-14
  Repair 5-14
PERCENT OF LOAD meters, description and use 2-4
% OF SPEED, TACHOMETER, description and use 2-3
Power cable, W9
  Remove 5-16
  Replace 5-16
  Test 5-16
Power cable, W10
  Remove 5-17
  Replace 5-17
  Test 5-17
Power distribution unit
  Description 1-8
  Repair 5-14
  Install 5-14
  Remove 5-14
  Replace 5-14
  Test 5-14
Power distribution unit wiring harness
  Inspect 5-14
  Remove 5-14
  Repair 5-14

INDEX (CONT)

Subject .... Para, Figure, Appendix

  Replace 5-14
  Test 5-14
Preparation for movement 2-10
Preparation for operation 2-9a
Preparation for storage or shipment 5-24
Preventive maintenance checks and services
  Hours 4-6
  Before operation 2-7
  During operation 2-7
  After operation 2-7
  Weekly 4-6
  Monthly 4-6

R

READY TO PARALLEL indicator, description and use 2-4
Receptacle J27, 115V 400HZ, convenience, description and use 2-5
References .... A
Relay, K3
  Description 1-8
  Remove 5-20
  Replace 5-20
Relay, K4
  Remove 5-10
  Replace 5-10
REMOTE CONTROL connector J12, description and use 2-5
REMOTE SENSE switch, description and use 2-4
Repair
  External fuel lines and fittings 5-23
  Internal fuel lines and fittings 4-25
  Pallet frame 5-21
  Steps 4-26
  Supports 4-26
  Tailgate 4-26
  Walkway 4-26
Repair parts and special tools list C
Replacement
  Cable assembly, auto start and compensation 4-14
  Cable, power, W1 4-15
  Cable, power, W9 5-16
  Cable, power, W10 5-17
  Cable, signal, W7 5-18
  Cable, signal, W8 5-19
  Cable, W2 4-11

INDEX (CONT)

Subject	Para, Figure, Appendix
Cable, W3	4-13
Cable, W4	4-12
Cable, W5	4-16
Cable, W6	4-10
Center tube supports	4-26
End plate, front	4-20
End plate, rear	5-21
External fuel lines and fittings	5-22
Front channel brace	4-26
Fuel check valve assembly	4-24
Fuel filter element	4-20
Fuel filter/water separator	4-20
Fuel-level sensors	4-19
Fuel tank	5-21
Fuel tank assembly components	4-22
Fuel tank vent	4-18
Fuel shutoff valves	4-21
Ground cable, generator set assembly	4-17
Ground wire	4-17
Internal fuel lines and fittings	4-25
MEP404B generator set	4-9
Pallet frame	5-21
Power cable, W9	5-16
Power cable, W10	5-17
Power distribution unit	5-14
Power distribution unit wiring harness	5-14
Solenoid valve assembly	4-23
Steps, curbside/roadside front and rear	4-26
Storage tray	4-26
Supports, left-/right-hand	4-26
Tailgate assembly	4-26
Valve gate	5-21
Walkway	4-18
Reporting Equipment Improvement Recommendations (EIR)	1-5
REVERSE CURRENT indicator, description and use	2-4
S	
Schematic diagram plate	4-17, 5-21
Sensor, fuel-level	
Description	1-8
Replace	4-19
Separator, fuel filter/water	
Description	1-8
Replace	4-20

INDEX (CONT)

Subject	Para, Figure, Appendix
Service upon receipt	
Direct support	5-5
Organizational	4-5
Shipment	1-4
Shipment of generator set	5-25
Shutdown for march	2-10
Shutdown for march conditions	2-10a
Shutoff valve (inlet), fuel	
Remove	4-21
Replace	4-21
Shutoff valve (outlet), fuel	
Remove	4-21
Replace	4-21
Sledgehammer	
Description	1-8
Remove	4-17, 5-21
Replace	4-17, 5-21
Solenoid valve assembly	
Description	1-8
Remove	4-23
Replace	4-23
START FAILURE indicator, description and use	2-3
STARTER HOT indicator, description and use	2-3
Stopping procedures	2-9d
Storage, administrative	1-4, 5-25
Storage and shipment, direct support	5-24
Storage tray, replace	4-26
Support equipment	4-3
Switches	
DROOP/ISOC, description and use	2-4
ENGINE CONTROL, description and use	2-3
LOCAL/REMOTE, description and use	2-4
MASTER SWITCH, description and use	2-3
OUTPUT CKT BKR, description and use	2-4
PANEL LIGHTS, description and use	2-4
Paralleling aid, description and use	2-4
PROTECTION BY PASS, description and use	2-4
REMOTE SENSE, description and use	2-4
STANDBY, description and use	2-3
Switch positions	2-9
UNIT/PARALLEL, description and use	2-4
Voltmeter phase selector, description and use	2-4

INDEX (CONT)

Subject ... Para, Figure, Appendix

T

- TACHOMETER, PERCENT (%) OF SPEED, description and use ... 2-3
- Tailgate assembly, replace ... 4-26
- Test
  - Cable assembly, auto start and compensation ... 4-14
  - Cable, power, W1 ... 4-15
  - Cable, power, W9 ... 5-16
  - Cable, power, W10 ... 5-17
  - Cable, signal, W7 ... 4-17
  - Cable, signal, W8 ... 4-18
  - Cable, W2 ... 4-11
  - Cable, W3 ... 4-13
  - Cable, W4 ... 4-12
  - Cable, W5 ... 4-16
  - Cable, W6 ... 4-10
  - Hour meter, description and use ... 2-4
  - J7 wiring harness ... 5-13
  - J8 wiring harness ... 5-13
  - J9 wiring harness ... 5-13
  - J10 wiring harness ... 5-13
  - K1 or K2 contactor ... 5-15
  - Power distribution unit ... 5-14
  - Power distribution unit wiring harness ... 5-14
- Test, measurement, and diagnostic equipment ... C
- Trailer, M353 (modified) 3½-ton
  - Description ... 1-8
  - Equipment data ... 1-9
  - Grounding system, description ... 1-8
  - Ground wire connection ... 2-9
  - Maintenance ... 4-26, 5-24
  - Remove ... 4-26
  - Repair ... 5-24
  - Replace ... 4-26
- Troubleshooting
  - Direct Support and General Support ... 5-7
  - Organizational ... 4-7
- Turbine control panel, description ... 1-8

U

- UNDER FREQ indicator, description and use ... 2-4
- UNDER VOLTAGE indicator, description and use ... 2-4
- UNIT/PARALLEL switch, description and use ... 2-4

INDEX (CONT)

Subject	Para, Figure, Appendix
V	
Valve assembly, fuel check, replace	4-24
Valve assembly, solenoid	
Description	1-8
Remove	4-23
Replace	4-23
Valve gate	
Description	1-8
Remove	5-21
Replace	5-21
Valve, (inlet) fuel shutoff	
Remove	4-21
Replace	4-21
Valve, (outlet) fuel shutoff	
Remove	4-21
Replace	4-21
Vent, fuel tank, description	1-8
VOLTAGE ADJUST control, description and use	2-4
VOLTAGE DROOP control, description and use	2-4
Voltmeter phase selector switch, description and use	2-4
VOLTS AC meter, description and use	2-4
W	
Walkway	
Description	1-8
Repair	5-8
Replace	4-18
Wiring harness, J7	
Fabricate	E-6
Remove	5-13
Replace	5-13
Test	5-13
Wiring harness, J8	
Fabricate	E-7
Remove	5-13
Replace	5-13
Test	5-13
Wiring harness, J9	
Fabricate	E-8
Remove	5-13
Replace	5-13
Test	5-13

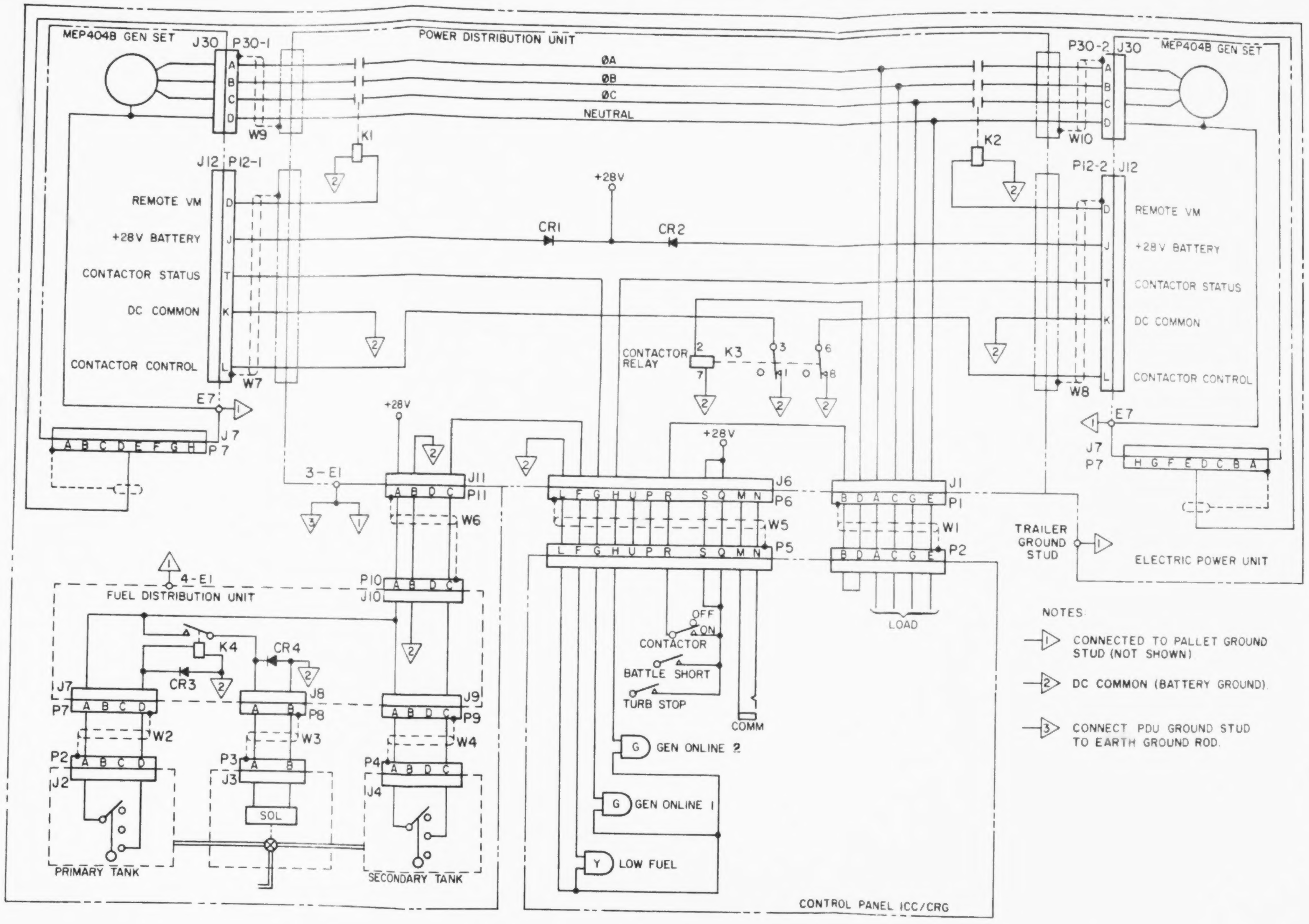
INDEX (CONT)

Subject	Para, Figure, Appendix
Wiring harness, J10	
Fabricate	E-9
Remove	5-13
Replace	5-13
Test	5-13
W1 power cable	
Connection	2-9a
Remove	4-15
Replace	4-15
Test	4-15
W2 cable	
Fabricate	E-12
Remove	4-11
Replace	4-11
Test	4-11
W3 cable	
Fabricate	E-11
Remove	4-13
Replace	4-13
Test	4-13
W4 cable	
Fabricate	E-12
Remove	4-12
Replace	4-12
Test	4-12
W5 cable	
Connection	2-9a
Remove	4-16
Replace	4-16
Test	4-16
W6 cable	
Remove	4-10
Replace	4-10
Test	4-10
W7 signal cable	
Remove	5-18
Replace	5-18
Test	5-18
W8 signal cable	
Remove	5-19
Replace	5-19
Test	5-19

INDEX (CONT)

Subject — Para, Figure, Appendix

W9 power cable
  Remove 5-16
  Replace 5-16
  Test 5-16
W10 power cable
  Remove 5-17
  Replace 5-17
  Test 5-17


MEP404B GEN SET
J30
P30-1
POWER DISTRIBUTION UNIT
ØA
ØB
ØC
NEUTRAL
W9
K1
P30-2
J30
MEP404B GEN SET
W10
K2
J12
P12-1
REMOTE VM
+28V BATTERY
CONTACTOR STATUS
DC COMMON
CONTACTOR CONTROL
W7
E7
J7
P7
A B C D E F G H
+28V
CR1
CR2
P12-2
J12
REMOTE VM
+28V BATTERY
CONTACTOR STATUS
DC COMMON
CONTACTOR CONTROL
W8
E7
J7
P7
H G F E D C B A
CONTACTOR RELAY
K3
3-E1
+28V
J11
P11
W6
J6
P6
L F G H U P R S Q M N
W5
P5
J1
P1
B D A C G E
W1
P2
LOAD
TRAILER GROUND STUD
ELECTRIC POWER UNIT
4-E1
FUEL DISTRIBUTION UNIT
P10
J10
K4
CR4
CR3
J7
P7
W2
P2
J2
J8
P8
W3
P3
J3
SOL
J9
P9
W4
P4
J4
PRIMARY TANK
SECONDARY TANK
OFF
ON
CONTACTOR
BATTLE SHORT
TURB STOP
COMM
GEN ONLINE 2
GEN ONLINE 1
LOW FUEL
CONTROL PANEL ICC/CRG

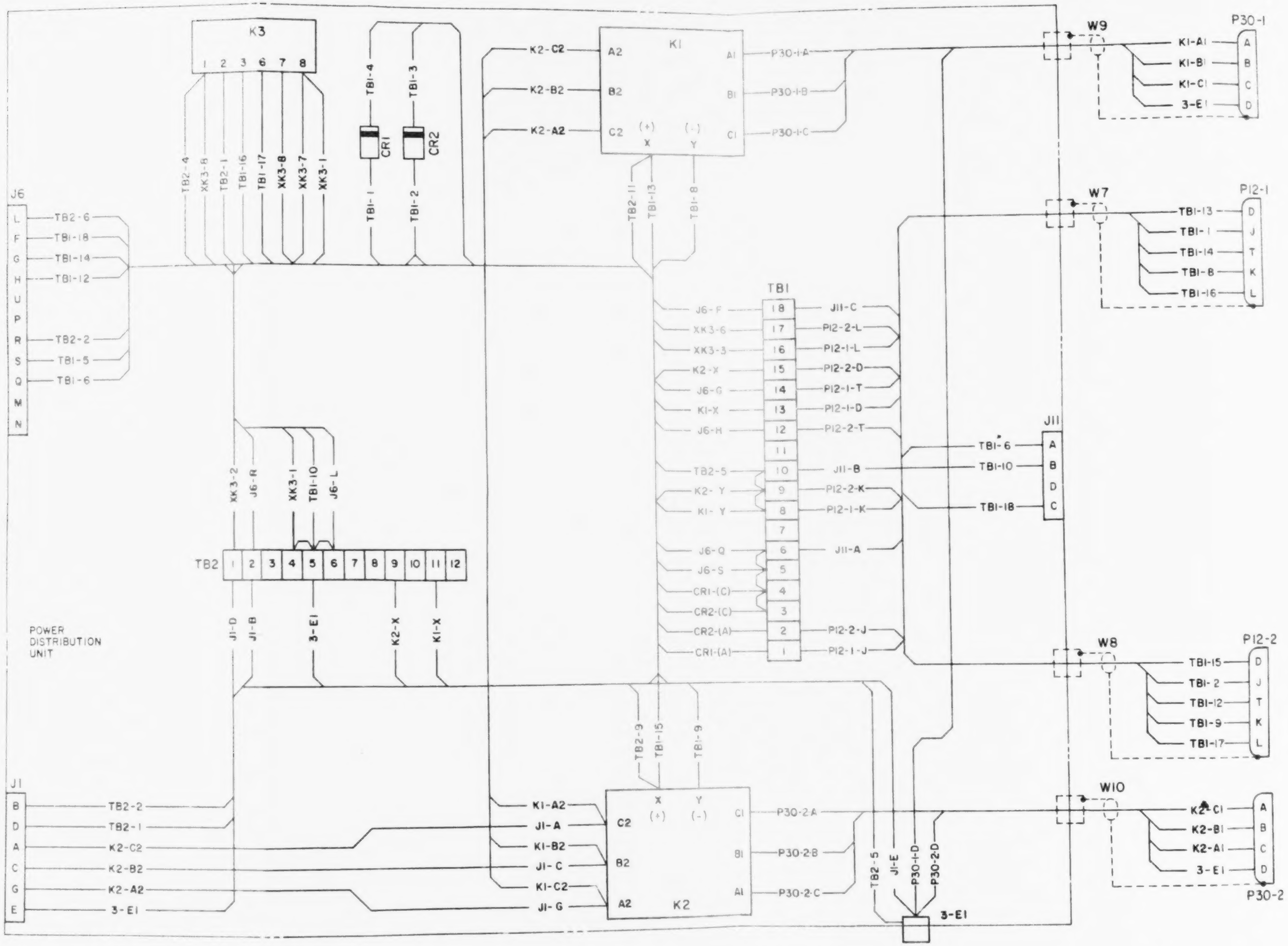
NOTES

- 1 CONNECTED TO PALLET GROUND STUD (NOT SHOWN)
- 2 DC COMMON (BATTERY GROUND)
- 3 CONNECT PDU GROUND STUD TO EARTH GROUND ROD.

LEGEND

CR1	POWER DISTRIBUTION UNIT DIODE
CR2	POWER DISTRIBUTION UNIT DIODE
CR3	FUEL DISTRIBUTION UNIT DIODE
CR4	FUEL DISTRIBUTION UNIT DIODE
E7	GROUND WIRE
J1	POWER DISTRIBUTION UNIT CONNECTOR
J2	PRIMARY TANK FUEL-LEVEL SENSOR CONNECTOR
J3	SOLENOID VALVE ASSEMBLY CONNECTOR
J4	SECONDARY TANK FUEL-LEVEL SENSOR CONNECTOR
J6	POWER DISTRIBUTION UNIT CONNECTOR
J7	FUEL DISTRIBUTION UNIT CONNECTOR
J8	FUEL DISTRIBUTION UNIT CONNECTOR
J9	FUEL DISTRIBUTION UNIT CONNECTOR
J10	FUEL DISTRIBUTION UNIT CONNECTOR
J11	POWER DISTRIBUTION UNIT CONNECTOR
J12	GENERATOR SET CONNECTOR
J30	GENERATOR SET CONNECTOR
K1	POWER DISTRIBUTION UNIT CONTACTOR
K2	POWER DISTRIBUTION UNIT CONTACTOR
K3	POWER DISTRIBUTION UNIT RELAY
K4	POWER DISTRIBUTION UNIT RELAY
P1	W1 POWER CABLE CONNECTOR
P2	W1 POWER CABLE CONNECTOR
P3	W3 CABLE CONNECTOR
P4	W4 CABLE CONNECTOR
P5	W5 CABLE CONNECTOR
P6	W5 CABLE CONNECTOR
P7	W2 CABLE CONNECTOR
P8	W3 CABLE CONNECTOR
P9	W4 CABLE CONNECTOR
P10	W6 CABLE CONNECTOR
P11	W6 CABLE CONNECTOR
P12-1	W7 CABLE CONNECTOR
P12-2	W8 CABLE CONNECTOR
P30-1	W9 POWER CABLE CONNECTOR
P30-2	W10 POWER CABLE CONNECTOR
SOL	SOLENOID VALVE ASSEMBLY
W1	POWER CABLE
W2	CABLE
W3	CABLE
W4	CABLE
W5	CABLE
W6	CABLE
W7	SIGNAL CABLE
W8	SIGNAL CABLE
W9	POWER CABLE
W10	POWER CABLE
3-E1	POWER DISTRIBUTION UNIT GROUND TERMINAL
4-E1	FUEL DISTRIBUTION UNIT GROUND TERMINAL

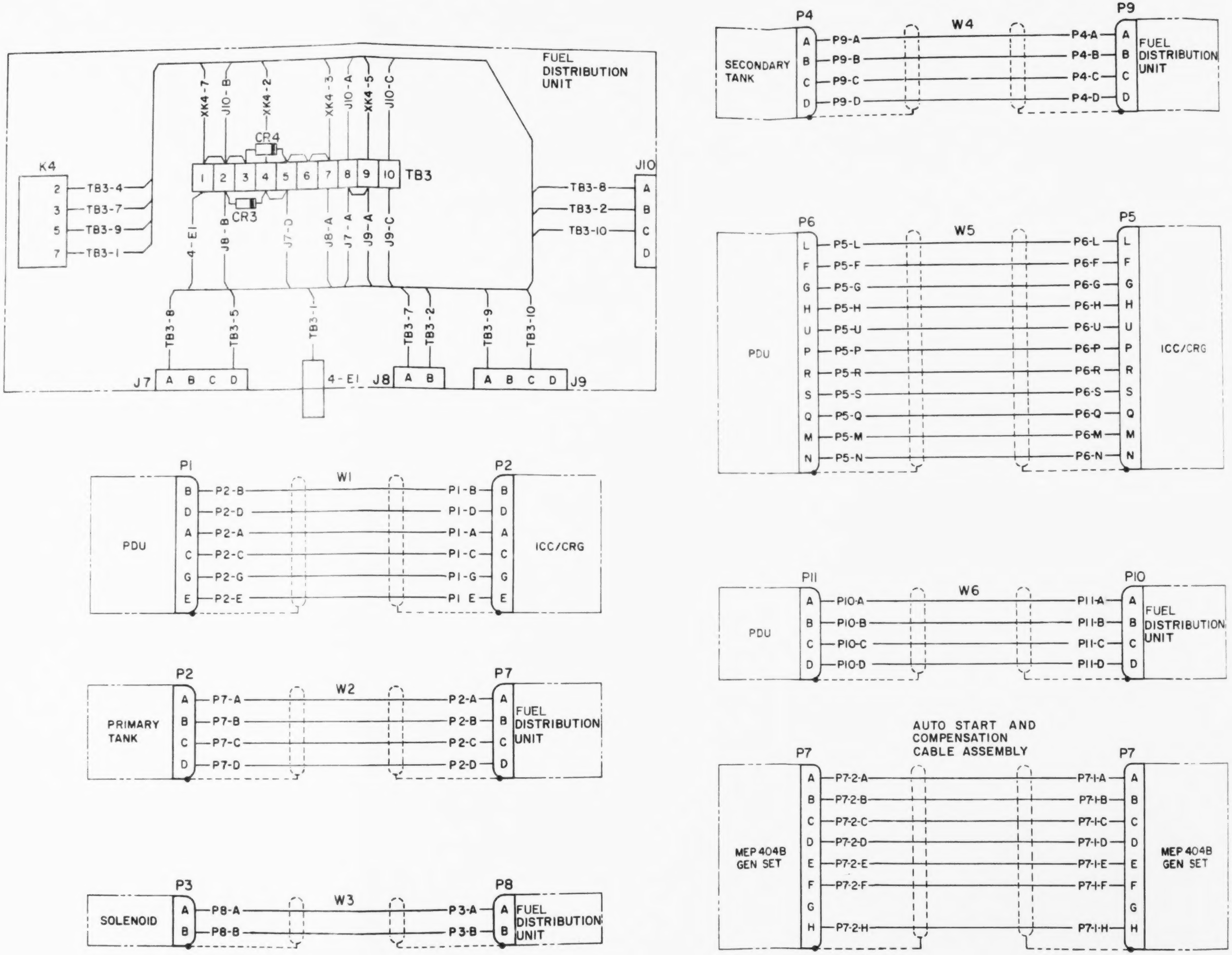
FO-1. SCHEMATIC DIAGRAM


K3
1 2 3 6 7 8
TB2-4
XK3-8
TB2-1
TB1-16
TB1-17
XK3-8
XK3-7
XK3-1
TB1-4
TB1-3
CR1
CR2
TB1-1
TB1-2
K2-C2
K2-B2
K2-A2
K1
A2
B2
C2
(+)
(-)
X
Y
A1
B1
C1
P30-1-A
P30-1-B
P30-1-C
TB2-11
TB1-13
TB1-8
W9
P30-1
K1-A1
K1-B1
K1-C1
3-E1
A
B
C
D
W7
P12-1
TB1-13
TB1-1
TB1-14
TB1-8
TB1-16
D
J
T
K
L
J6
L
F
G
H
U
P
R
S
Q
M
N
TB2-6
TB1-18
TB1-14
TB1-12
TB2-2
TB1-5
TB1-6
TB1
J6-F
XK3-6
XK3-3
K2-X
J6-G
K1-X
J6-H
TB2-5
K2-Y
K1-Y
J6-Q
J6-S
CR1-(C)
CR2-(C)
CR2-(A)
CR1-(A)
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
J11-C
P12-2-L
P12-1-L
P12-2-D
P12-1-T
P12-1-D
P12-2-T
J11-B
P12-2-K
P12-1-K
J11-A
P12-2-J
P12-1-J
J11
TB1-6
TB1-10
TB1-18
A
B
D
C
XK3-2
J6-R
XK3-1
TB1-10
J6-L
TB2
1 2 3 4 5 6 7 8 9 10 11 12
J1-D
J1-B
3-E1
K2-X
K1-X
POWER DISTRIBUTION UNIT
W8
P12-2
TB1-15
TB1-2
TB1-12
TB1-9
TB1-17
D
J
T
K
L
TB2-9
TB1-15
TB1-9
J1
B
D
A
C
G
E
TB2-2
TB2-1
K2-C2
K2-B2
K2-A2
3-E1
K1-A2
J1-A
K1-B2
J1-C
K1-C2
J1-G
X
Y
(+)
(-)
C2
B2
A2
K2
C1
B1
A1
P30-2-A
P30-2-B
P30-2-C
TB2-5
J1-E
P30-1-D
P30-2-D
3-E1
W10
K2-C1
K2-B1
K2-A1
3-E1
A
B
C
D
P30-2

LEGEND

CR1	DIODE
CR2	DIODE
J1	CONNECTOR
J6	CONNECTOR
J11	CONNECTOR
K1	CONTACTOR
K2	CONTACTOR
K3	RELAY
P12-1	W7 CABLE CONNECTOR
P12-2	W8 CABLE CONNECTOR
P30-1	W9 POWER CABLE CONNECTOR
P30-2	W10 POWER CABLE CONNECTOR
TB1	TERMINAL BOARD 1
TB2	TERMINAL BOARD 2
W7	SIGNAL CABLE
W8	SIGNAL CABLE
W9	POWER CABLE
W10	POWER CABLE
3-E1	GROUND TERMINAL

FO-2. PDU WIRING DIAGRAM


FUEL DISTRIBUTION UNIT
K4
TB3
CR3
CR4
J7
J8
J9
J10
4-E1
XK4-7
J10-B
XK4-2
XK4-3
J10-A
XK4-5
J10-C
J8-B
J7-D
J8-A
J7-A
J9-A
J9-C
TB3-4
TB3-7
TB3-9
TB3-1
TB3-8
TB3-2
TB3-10
TB3-5
TB3-7
W1
P1
P2
PDU
ICC/CRG
W2
PRIMARY TANK
P7
W3
P3
P8
SOLENOID
W4
P4
P9
SECONDARY TANK
W5
P6
P5
W6
P11
P10
AUTO START AND COMPENSATION CABLE ASSEMBLY
MEP 404B GEN SET

LEGEND

CR3	DIODE
CR4	DIODE
J7	FUEL DISTRIBUTION UNIT CONNECTOR
J8	FUEL DISTRIBUTION UNIT CONNECTOR
J9	FUEL DISTRIBUTION UNIT CONNECTOR
J10	FUEL DISTRIBUTION UNIT CONNECTOR
K4	RELAY
P1	W1 POWER CABLE CONNECTOR
P2	W1 POWER CABLE CONNECTOR
P2	W2 CABLE CONNECTOR
P3	SOLENOID VALVE ASSEMBLY CONNECTOR
P4	SECONDARY TANK FUEL-LEVEL SENSOR CONNECTOR
P5	W5 CABLE CONNECTOR
P6	W5 CABLE CONNECTOR
P7	AUTO START AND COMPENSATION CABLE ASSEMBLY
P7	AUTO START AND COMPENSATION CABLE ASSEMBLY
P8	W3 CABLE CONNECTOR
P10	W6 CABLE CONNECTOR
P11	W6 CABLE CONNECTOR
TB3	TERMINAL BOARD 3
W1	POWER CABLE
W2	CABLE
W3	CABLE
W4	CABLE
W5	CABLE
W6	CABLE
4-E1	FUEL DISTRIBUTION UNIT GROUND TERMINAL

FO-3. WIRING DIAGRAM

By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

Official:

ROBERT M. JOYCE
Major General, United States Army
The Adjutant General

DISTRIBUTION:
To be distributed in accordance with DA Form 12-25D, Operator Maintenance Requirements for Truck and Trailer Mounted Generators (PU's).

☆ U.S. GOVERNMENT PRINTING OFFICE : 1989 O - 242-466 (03782)

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

THEN... JOT DOWN THE DOPE ABOUT IT ON THIS FORM, CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL!

SOMETHING WRONG WITH THIS PUBLICATION?

FROM (PRINT YOUR UNIT'S COMPLETE ADDRESS)
PFC JOHN DOE
COA, 3d ENGINEER BN
FT. LEONARDWOOD, MO 63108

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 5-6115-599-14&P	1 October 1984	Electric Power Unit AN/MJQ-21

BE EXACT PIN-POINT WHERE IT IS				IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:
PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO	
6	2-1 a			In line 6 of paragraph 2-1a the manual states the engine has 6 Cylinders. The engine on my set only has 4 Cylinders. Change the manual to show 4 Cylinders.
81		4-3		Callout 16 on figure 4-3 is pointing at a bolt. In key to figure 4-3, item 16 is called a shim - Please correct one or the other.
125	line		20	I ordered a gasket, item 19 on figure B-16 by NSN 2910-00-762-3001. I got a gasket but it doesn't fit. Supply says I got what I ordered, so the NSN is wrong. Please give me a good NSN

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER	SIGN HERE
JOHN DOE, PFC (268) 317-7111	John Doe JOHN DOE

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE.

DRSTS-M Overprint 1, 1 Nov 80

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS

TEAR ALONG PERFORATED LINE

REVERSE OF DA FORM 2028-2 Reverse of DRSTS-M Overprint 2,
1 Nov 80

TEAR ALONG PERFORATED LINE

FILL IN YOUR
UNIT'S ADDRESS

FOLD BACK

DEPARTMENT OF THE ARMY

____

____

COMMANDER
U S ARMY TROOP SUPPORT COMMAND
ATTN: AMSTR-MPS
4300 GOODFELLOW BOULEVARD
ST. LOUIS, MO 63120

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

THEN. . . JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL!

SOMETHING WRONG WITH THIS PUBLICATION?

FROM (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER TM 5-6115-599-14&P	PUBLICATION DATE 1 October 1984	PUBLICATION TITLE Electric Power Unit AN/MJQ-21

BE EXACT . . . PIN-POINT WHERE IT IS

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

SIGN HERE

TEAR ALONG PERFORATED LINE

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE.

DRSTS-M Overprint 2, 1 Nov 80.

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

REVERSE OF DA FORM 2028-2 Reverse of DRSTS-M Overprint 2,
1 Nov 80

FILL IN YOUR
UNIT'S ADDRESS

FOLD BACK

TEAR ALONG PERFORATED LINE

DEPARTMENT OF THE ARMY

____

____

COMMANDER
U S ARMY TROOP SUPPORT COMMAND
ATTN: AMSTR-MPS
4300 GOODFELLOW BOULEVARD
ST. LOUIS, MO 63120

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

THEN. . JOT DOWN THE DOPE ABOUT IT ON THIS FORM, CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL!

SOMETHING WRONG WITH THIS PUBLICATION?

FROM (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 5-6115-599-14&P	1 October 1984	Electric Power Unit AN/MJQ-21

BE EXACT PIN-POINT WHERE IT IS

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

SIGN HERE

TEAR ALONG PERFORATED LINE

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE.

DRSTS-M Overprint 2, 1 Nov 80.

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS

REVERSE OF DA FORM 2028-2 Reverse of DRSTS-M Overprint 2,
1 Nov 80

TEAR ALONG PERFORATED LINE

FILL IN YOUR
UNIT'S ADDRESS

FOLD BACK

DEPARTMENT OF THE ARMY

COMMANDER
U S ARMY TROOP SUPPORT COMMAND
ATTN: AMSTR-MPS
4300 GOODFELLOW BOULEVARD
ST. LOUIS, MO 63120

TEAR ALONG PERFORATED LINE

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

THEN... JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL!

SOMETHING WRONG WITH THIS PUBLICATION?

FROM (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER TM 5-6115-599-14&P	PUBLICATION DATE 1 October 1984	PUBLICATION TITLE Electric Power Unit AN/MJQ-21

BE EXACT... PIN-POINT WHERE IT IS

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER	SIGN HERE

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE.

DRSTS-M Overprint 2, 1 Nov 80.

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

REVERSE OF DA FORM 2028-2 Reverse of DRSTS-M Overprint 2,
1 Nov 80

FILL IN YOUR
UNIT'S ADDRESS

FOLD BACK

DEPARTMENT OF THE ARMY

____

____

COMMANDER
U S ARMY TROOP SUPPORT COMMAND
ATTN: AMSTR-MPS
4300 GOODFELLOW BOULEVARD
ST. LOUIS, MO 63120

TEAR ALONG PERFORATED LINE

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .035 ounce
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.356	metric tons	short tons	1.102
pound-inches	newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

PIN : 051161-000